WebPower

UPS SNMP HTTP AGENT

User Guide

WebPowerPro_man_E420

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Electronic Emission Notice

Federal Communications Commission (FCC)

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment.

CE Notice

This device complies with the EMC directive of the European Community and meets or exceeds the following technical standard:

- EN 55022:1998 —"Limits and Methods of Measurement of Radio interference Characteristics of information Technology Equipment." This device complies with the CISPR Class B standard
- EN 55024:1998 —"Electromagnetic compatibility— Generic immunity standard Part1: Residential, and light industry."

Safety Information

For WebPower Pro

- All the service of this equipment must be perform by qualified service personnel. Remove rings, watches and other jewelry before servicing the unit
- Before plug in/pull out the WebPower Pro to/from the UPS, please make sure that the power of the UPS must be off. Hot swap of the WebPower Pro in UPS is inhibited.

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Chapter 1 Welcome

Introduction administration

WebPower can get hold of the status from and issue commands to the UPS. User can use SNMP managers or Web browsers to manage the UPS through an Ethernet.

WebPower also provides shutdown programs for different operating systems. It issues a shutdown command in the event such as mains failure, UPS battery low condition, UPS overload, UPS over temperature and scheduled shutdown. All shutdown events are configurable by user. The shutdown software will proceed to the automatic orderly shutdown to prevent the abnormal shut-off of the clients or servers.

WebPower Pro – Internal card version with 10/100 auto-sense fast Ethernet.

The internal card version (WebPower) is designed for UPS models, which have the extension board slot where WebPower can be inserted and connected to the UPS through the golden fingers as in Figure 1-1.

Figure 1-1 WebPower

WebPower Resources

The WebPower CD-ROM contains Quick Installation Guide, User Guide, MIB files and WebPower Shutdown Software for various OS that you can use to configure the WebPower.

1. WebPower Quick Installation Guide gives detail on how to install and configure a WebPower using a Windows OS workstation.
2. WebPower User Guide gives more detail and information on installation and configuration of WebPower.
3. WebPower provides online help that gives additional instructions for administering a WebPower.

WebPower Package Contents

For WebPower

1. WebPower Pro card with mounting bracket
2. RJ45 to DB9 Female serial cable for WebPower console operation
3. WebPower CD-ROM containing the Shutdown Software for various OS, provided WebPower MIB file for SNMP Network Management System (NMS), WebPower Quick Installation Guide, WebPower User Guide in electronic format

Features

- **Network connection through RJ45 connector**

Allows connection of the UPS directly to the network through a RJ45 connector without using RS232 ports on the computer and without loading any individual UPS management software on the network server.

- **Network UPS management**

Allows remote management of the UPS from any workstation through Internet or Intranet.

- **Remote UPS monitoring via SNMP, HTTP and JAVA applets**

Allows monitoring of the UPS using WebPower MIB (Management Information Base) - provided with WebPower, Internet Browser or Java monitoring applets.

- **Configure UPS and WebPower functions from any client (password protected)**

Set UPS and WebPower parameters from any SNMP management station or through Internet Browsers using HTTP forms and objects.

- **Monitor power quality via Java Applets**

Provides visual indication on screen through dynamic graphics.

- **Keep event logs & metering data in flash memory**

Provides a history file of UPS power events, power quality, UPS status and battery condition.

- **Automatic shutdown**

The shutdown software included provides automatic orderly shutdown either pre-programmed by Administrator or when critical power events.

- **Multiple server shutdown**

The shutdown program will broadcast mains failure messages via an IP (Internet Protocol) packet and perform automatic shutdown on several servers operating with different operating systems.

… also

- **Notification of system administrator via SNMP Traps, Java applets**
- **RTC supported**
- **Shutdown Watchdog enabled**
- **Telnet support for configuration**
- **BOOTP/DHCP supported**
- **GUI for homepages and Java applets**
- **Online configuration supported**
- **Standard UPS MIB (RFC1628) supported**
- **Enhanced HTTP security**
- **No restart needed for IP change**
- **System parameters/log write to flash memory simultaneously**
- **SSH and SSL supported**
- **WOL function supported**
- **Can connect an EMD (Environmental Monitoring Device) to detect the temperature and humidity.**

System Application

WebPower is an interface between UPS and the network. It can obtain the status from a UPS and issue commands to it. WebPower supports two kinds of protocol – SNMP and HTTP for user access. Through the SNMP NMS and Web Browser, user can obtain the UPS status, issue commands to UPS and setting up WebPower through the network.

WebPower also provides shutdown software for various OS. The shutdown software that runs under various O.S. can link to WebPower automatically through the network and communicate with WebPower via a proprietary protocol. WebPower will issue the shutdown command to shutdown software in the event of AC failure, battery low and scheduled shutdown. Shutdown software will then proceed to the shutdown process in order to prevent the abnormal shutoff of host or server due to power events.

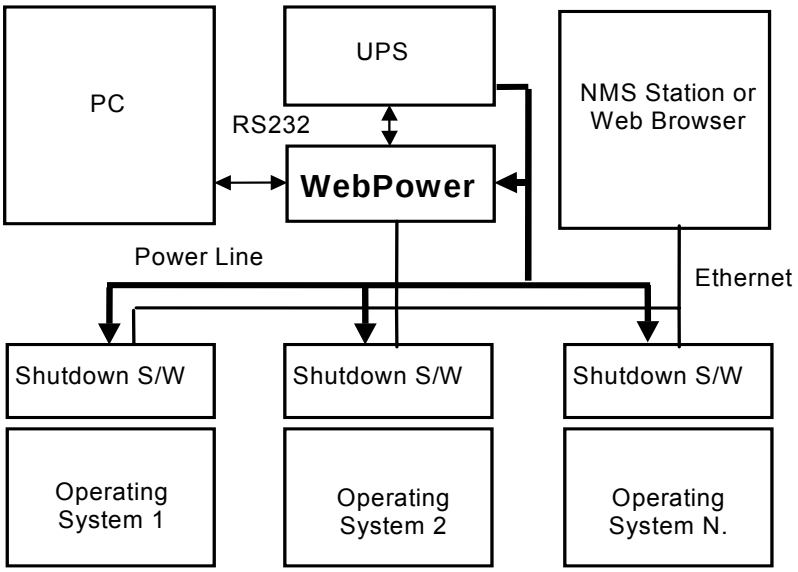


Figure 1-2 WebPower System Application Diagram

Chapter 2 Connect WebPower to the Network

What you need

To install WebPower on a network and change its default configuration, you need a workstation running Microsoft Windows (9x, Me, NT4.0, 2000, XP or later). If your network dynamically configures IP address, all you need is a workstation with a Web Browser.

There are two methods for setting the WebPower configuration:

1. Set up the WebPower through the serial port
2. Set up the WebPower via a Web Browser

Hardware Installation

Hardware Installation of WebPower

1. Fasten the WebPower Pro to WebPower bracket.
2. Insert the WebPower Pro into the UPS slot.
   (As Figure 4. See also the manual of the specific UPS for correct UPS slot installation; the procedure for Installing UPS slot interface may differ from one model of UPS to the next.)
3. Lock the screws of the WebPower Pro bracket.

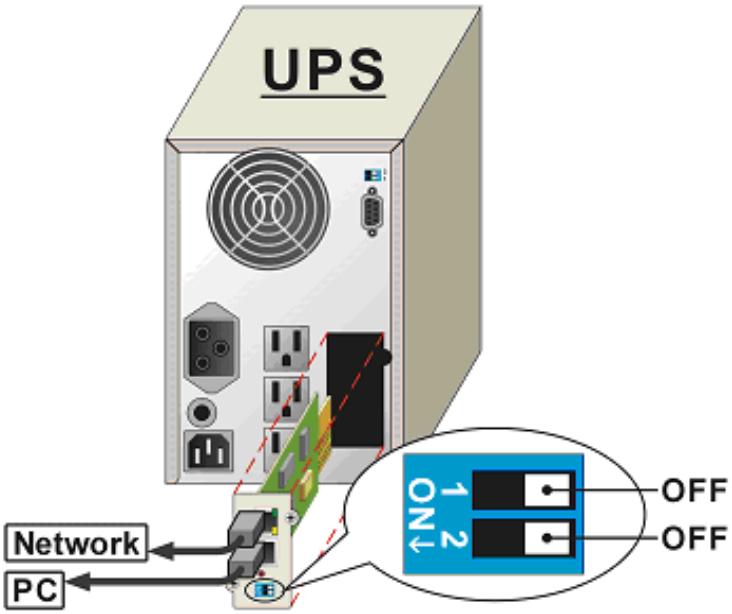


Figure 2-1 WebPower and UPS connection

Please refer to the next section for serial port configuration, or go to the last section of this chapter for configuration through a Web Browser.

WebPower Configuration through the Serial Port

Hardware Preparation of WebPower

1. Procure a workstation (Microsoft Windows 9x, Me, NT4.0, 2000, XP or later installed).
2. Use the RJ45 to DB9 female serial cable that provided from package connect between the WebPower COM port and the COM port on the workstation. (See Figure 2-2)
3. Set both the DIP-switches of the WebPower Pro to OFF position (operating mode) for configuration.

Figure 2-2 Serial cable connection of WebPower

Configuring the WebPower

1. From a workstation running Microsoft Windows (9x, Me, NT4.0, 2000, XP or later,), and click on the *HyperTerminal* icon of the accessory programs group. (See 2-3)

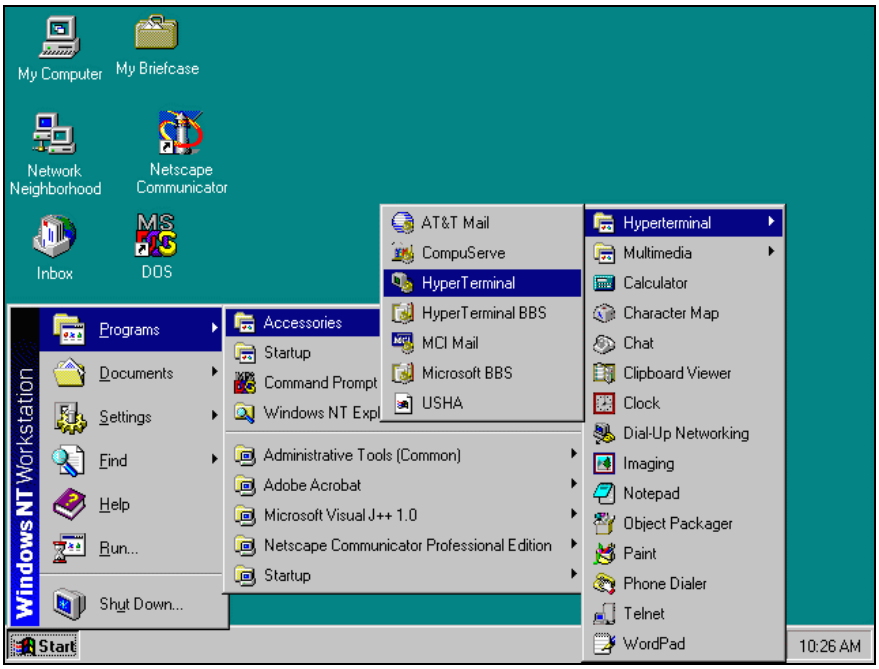


Figure 2-3 Hyper Terminal folders in the accessory programs group.

2. Enter a name and choose an icon for the connection. (See2-4)

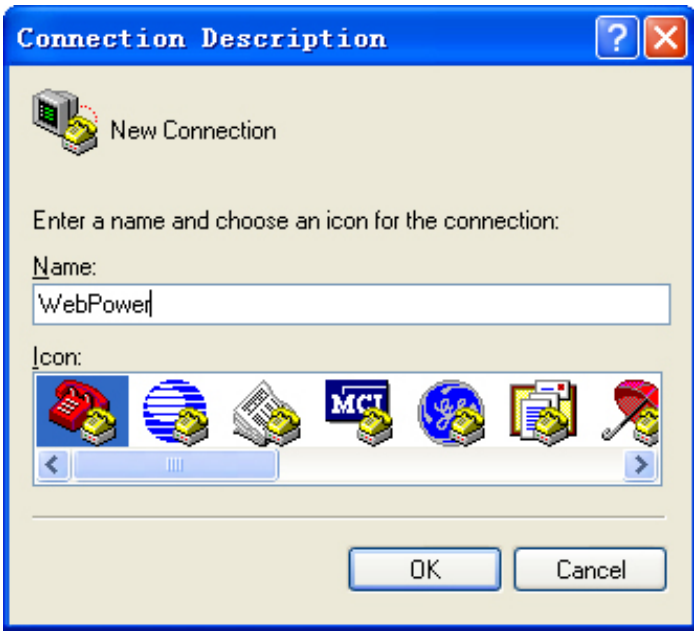


Figure 2-6 New Hyper Terminal connection.

3. Select direct COM port connection. (See 2-5.)

Figure 2-5 Select Direct to COM port connection.

4. Setup the COM port parameters - 9600 bps, 8 data bits, no parity, 1 stop bit and no flow control. (See 2-6.)

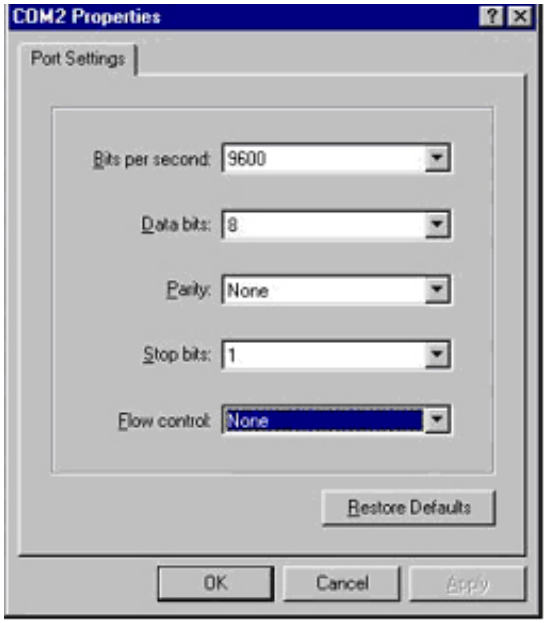


Figure 2-6 Setup of the COM port parameters.

5. If you are using WebPower Pro, power on the UPS . Wait for WebPower to boot up. Messages will then are displayed on the screen (See 2-7); afterwards, key in the password (default password is ***admin***). The WebPower configuration utility main menu will be displayed on the screen.

```
+================================================================================+
|                        [ WebPower Configuration Utility Main menu ]                                    |
+================================================================================+

Enter Password:
```

Figure 2-7 WebPower Configuration menu.

6. Select "*1*" to enter the WebPower Configuration screen (2-8).

```
+================================================================================+
|                        [ WebPower Configuration Utility Main menu ]                                    |
+================================================================================+
       1. WebPower Configuration
       2. UPS Parameters
       3. Access Control Table
       4. Trap Receiver Table
       5. Reset Configuration To Default
       6. Restart Agent
       6. Exit

Please Enter Your Choice => 1


+================================================================================+
|                  [ WebPower Configuration Utility Main menu ]                                      |
+================================================================================+
       1. System Group
       2. Control Group
       3. Parameter Group
       4. Email Group
       0. Return to previous menu

Please Enter Your Choice =>
```

Figure 2-8 WebPower Configuration menu.

Setting the IP Address, Gateway Address, Network Mask and Date/Time

From the configuration menu, press "*1*" to select this function and set the IP address, Gateway address and other group parameters. The definitions of these parameters are listed below (Figure 2-9).

```
+================================================================================+
|                        [ System Group Configuration Menu ]                                       |
+================================================================================+
        SNMP Agent Version          : WebPower v300 (SN 1203927005)
        Ethernet Address            : 00 E0 D8 0C 09 5F
       1. IP Address                : 192.168.1.100
       2. Gateway Address           : 192.168.1.254
       3. Network Mask              : 255.255.255.0
       4. Date and Time
       0. Return to previous menu

Please Enter Your Choice => 4


+================================================================================+
|                             [ Date and Time Menu ]                                               |
+================================================================================+
       1. System Date (dd/mm/yyyy)     : 07/06/2005
       2. System Time (hh:mm:ss)       : 17:16:00
       3. NTP server                   : 133.31.180.6
       4. NTP Time Zone                : +08:00
       5. Daylight Saving Time Control : Enabled
       6. NTP Control                  : Enabled
       0. Return to previous menu

Please Enter Your Choice =>
```

Figure 2-9 Setting the WebPower local network addressing parameters, date and time.

No.	Function	Description	Example/Remark
1.	IP Address	The WebPower IP address.	192.168.1.236
2.	Gateway Address	The network default gateway.	192.168.1.254
3.	Network Mask	The sub-net mask setting.	255.255.255.0
4.	Date and Time	Setting Date and Time in this group	

No.	Function	Description	Example/Remark
1.	System Date	WebPower internal Date (dd/mm/yyyy)	06/07/2005
2.	System Time	WebPower internal Time (hh:mm:ss)	17:16:00
3.	NTP Server	Setting NTP time server	133.31.180.6
4.	NTP Time Zone	Setting NTP time Zone as +/-hh:mm	+08:00
5.	Daylight Saving Time Control	Enable/disable daylight saving time	Enabled
6.	NTP Control	Enable/disable NTP time server	Enabled

After completing these settings, press “0” to return to the configuration menu.

Control Group Setting

From the configuration menu, press “2” to modify the access password and enabled/disabled status of the available network protocols (Figure 2-10). See **Appendix C** HTTP Security Control for detail.

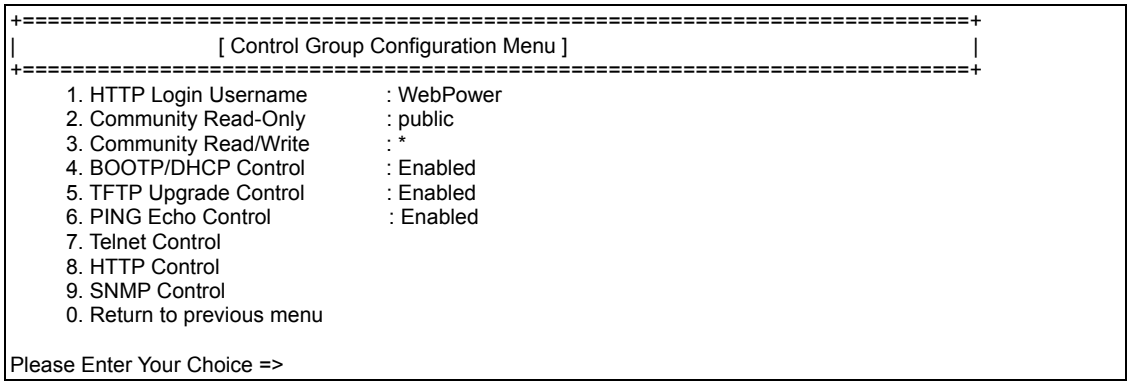

[Control Group Configuration Menu]
1. HTTP Login Username : WebPower
2. Community Read-Only : public
3. Community Read/Write : *
4. BOOTP/DHCP Control : Enabled
5. TFTP Upgrade Control : Enabled
6. PING Echo Control : Enabled
7. Telnet Control
8. HTTP Control
9. SNMP Control
0. Return to previous menu
Please Enter Your Choice =>

Figure 2-10 Setting the passwords and enabling the network protocols

No.	Function	Description	Example/Remark
1.	HTTP Login Name	HTTP access login string	“WebPower”
2.	Community Read-Only	General password for read-only access	“public”
3.	Community Read/Write	Administrator password for read and write access	“admin”
4.	BOOTP/DHCP Control	Enable/disable the BOOTP/DHCP protocols	Enabled
5.	TFTP Upgrade Control	Enable/disable the TFTP protocol for firmware upgrades through the local network	Enabled
6.	PING Echo Control	Enable/disable the PING echo	Enabled
7.	Telnet Control	Enable/disable the TELNET protocol and change port number	Enabled
8.	HTTP Control	Enable login and password request for HTTP access. Could change HTTP port number	Disabled
9.	SNMP Control	Enable/disable the SNMP service or change UDP port number	Enabled

After completing these settings, press “0” to return to the configuration menu.

Parameter Group Setting

From the configuration menu press “3” to modify the SNMP identification information. (Figure 2-11)

```
+=============================================================================+
|                      [ Parameter Group Configuration Menu ]                 |
+=============================================================================+
      1. sysContact                 : Technical Support Team
      2. sysName                    : UPS Agent
      3. System Location            : Technical Support Lab.
      4. EMD Configuration          : Disabled
      5. Temperature Unit           : Celsius
      6. Default Language           : Auto
      0. Return to previous menu

Please Enter Your Choice =>
```

Figure 2-11 Setting the SNMP identification information and the UPS data read frequency.

No	Function	Description	Example/Remark
1.	SysContact	Alphanumeric string	Technical Support Team
2.	SysName	Alphanumeric string	UPS Agent
3.	SystemLocation	Alphanumeric string	Technical Support Lab.
4.	EMD Configuration	Enable/disable EMD function	Disable
5.	Temperature Unit	Change temperature Unit to Celsius or Fahrenheit	Celsius
6.	Default Language	Display WebPower homepage main menu consistent with the language pre-set in the Web Browser	Auto

After completing these settings, press “0” to return to the configuration menu.

Email Group Setting

From the configuration menu, press “4” to modify the Email configuration. (Figure 2-12)

```
+=============================================================================+
|                      [ Email Group Configuration Menu ]                     |
+=============================================================================+
      1. Mail Server                    : yahoo.com
      2. User Account                   : AAA
      3. User Password                  : *
      4. Sender’s Email Address         : username@yahoo.com
      5. DNS IP Address                 : 168.95.1.1
      6. Daily Status Report            : 12:00
      7. Mail Receivers
      8. Test Email Configuration
      0. Return to previous menu

Please Enter Your Choice =>
```

Figure 2-12 Setting the Email information

No.	Function	Description	Example/Remark
1.	Mail Server	Setting Email server to receive the mail form WebPower	yahoo.com
2.	User Account	User account for the mail server	AAA
3.	User Password	The password of the mail server	*
4.	Sender's Email Address	The Email Address of sender	username@yahoo.com
5.	DNS IP Address	Set DNS IP address	168.95.1.1
6.	Daily Status Report	Setting the time of daily status report (hh:mm)	12:00
7.	Mail Receivers	Set the mail account, mail type and event level in mail receiver table	
8.	Test Email Configuration	Set yes/no to send a mail test to the mail account which set in mail receiver table	

After completing these settings, press "0" to return to the configuration menu.

UPS Information Group Setting

From the UPS Parameters / UPS configuration menu press "1" to see the UPS information. (Figure 2-13)

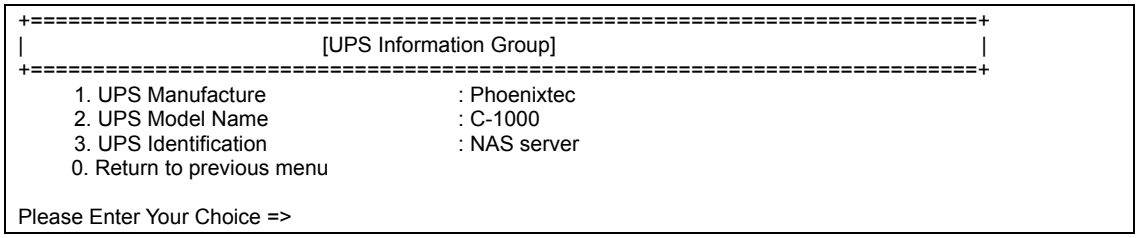

[UPS Information Group]
1. UPS Manufacture : Phoenixtec
2. UPS Model Name : C-1000
3. UPS Identification : NAS server
0. Return to previous menu
Please Enter Your Choice =>

Figure 2-13 UPS Information Group

No	Function	Description	Example/Remark
1.	UPS Manufacture	Showing the UPS Manufacture or setting this value by user	Phoenixtec
2.	UPS Model Name	Showing the UPS Model Name or setting this value by user	C-1000
3.	UPS Identification Name	Alphanumeric string	NAS server

After completing these settings, press "0" to return to the configuration menu.

UPS Rating Group

From the UPS Parameters / UPS configuration menu press "2" to set the UPS rating value. (Figure 2-14)

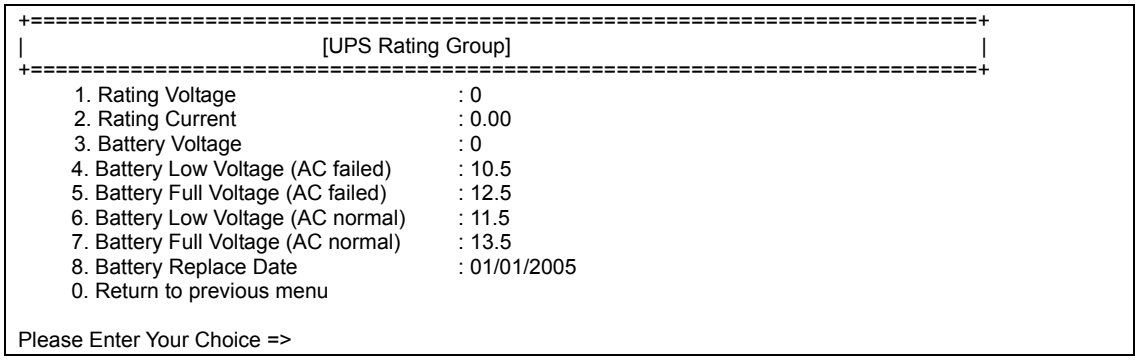

[UPS Rating Group]
1. Rating Voltage : 0
2. Rating Current : 0.00
3. Battery Voltage : 0
4. Battery Low Voltage (AC failed) : 10.5
5. Battery Full Voltage (AC failed) : 12.5
6. Battery Low Voltage (AC normal) : 11.5
7. Battery Full Voltage (AC normal) : 13.5
8. Battery Replace Date : 01/01/2005
0. Return to previous menu
Please Enter Your Choice =>

Figure 2-14 UPS Rating Group

No	Function	Description	Example/Remark
1.	Rating Voltage	Showing the UPS rating voltage or setting this value by user	0
2.	Rating Current	Showing the UPS rating current or setting this value by user	0.00
3.	Battery Voltage	Showing battery voltage or setting this value by user	0
4.	Battery Low Voltage (AC failed)	The battery low voltage when AC failed	10.5
5.	Battery Full Voltage (AC failed)	The battery full voltage when AC failed	12.5
6.	Battery Low Voltage (AC normal)	The battery low voltage when AC normal	11.5
7.	Battery Full Voltage (AC normal)	The battery full voltage when AC normal	13.5
8.	Battery Replace Date	The battery replaces date (dd/mm/yyyy)	01/01/2005

After completing these settings, press “0” to return to the configuration menu.

Access Control Table Setting

If you wish to use a workstation with SNMP Manager installed, or if you wish to set more restrictive WebPower access, you can use the access table to add the IP address of the PC’s on which you wish to modify the access permissions (Figure 2-15).

Note: The configuration of Access Control Table is configured for SNMP and HTTP Network Management. Access through TELNET or RS-232 is permitted only when using the “Community Read/Write” password in *Control Group*.

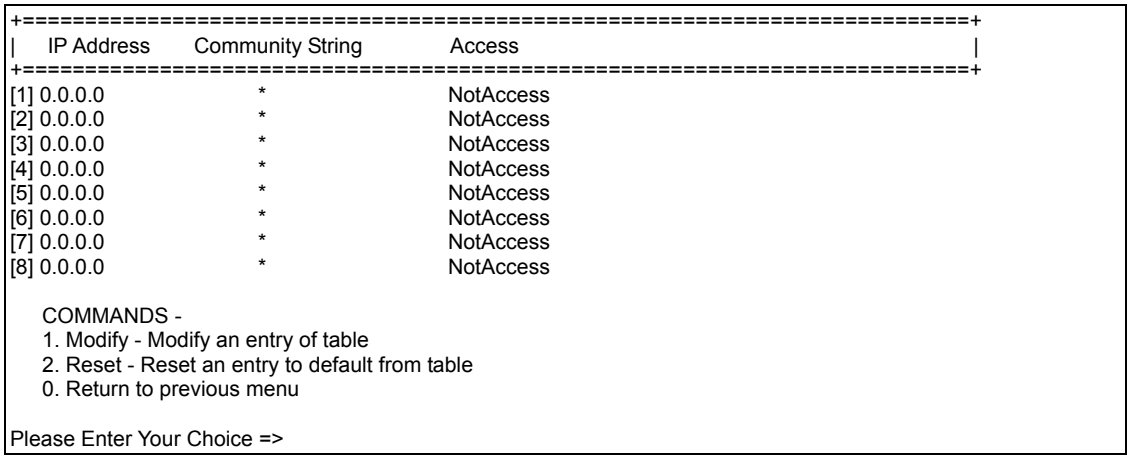

| IP Address Community String Access |
[1] 0.0.0.0 * NotAccess
[2] 0.0.0.0 * NotAccess
[3] 0.0.0.0 * NotAccess
[4] 0.0.0.0 * NotAccess
[5] 0.0.0.0 * NotAccess
[6] 0.0.0.0 * NotAccess
[7] 0.0.0.0 * NotAccess
[8] 0.0.0.0 * NotAccess
COMMANDS -
1. Modify - Modify an entry of table
2. Reset - Reset an entry to default from table
0. Return to previous menu
Please Enter Your Choice =>

Figure 2-15Access Control Table

Press key “1” to modify the data on a line. Press “2” to delete all the data on a line.

NOTE1: The community strings entered in the Community String fields are visible only in the RS-232 connection. The TELNET connection does not display the string. An asterisk “*” will be shown in the field.

NOTE2: If a “NotAccess” access right is associated with an IP address, the associate workstation will not be able to display any information regarding the WebPower, even if the Community Read-Only string is entered.

Setting Trap Receivers

If you want to use a PC and perform the SNMP manager ‘trap’ function in order to manage UPS through WebPower, the IP address of the PC must be added to the WebPower list. Press “1” to modify the data on a line. Press “2” to delete all the data on a line. (Figure 2-16)

Note: The Set Trap Receivers configuration is used only for SNMP Network Manager.

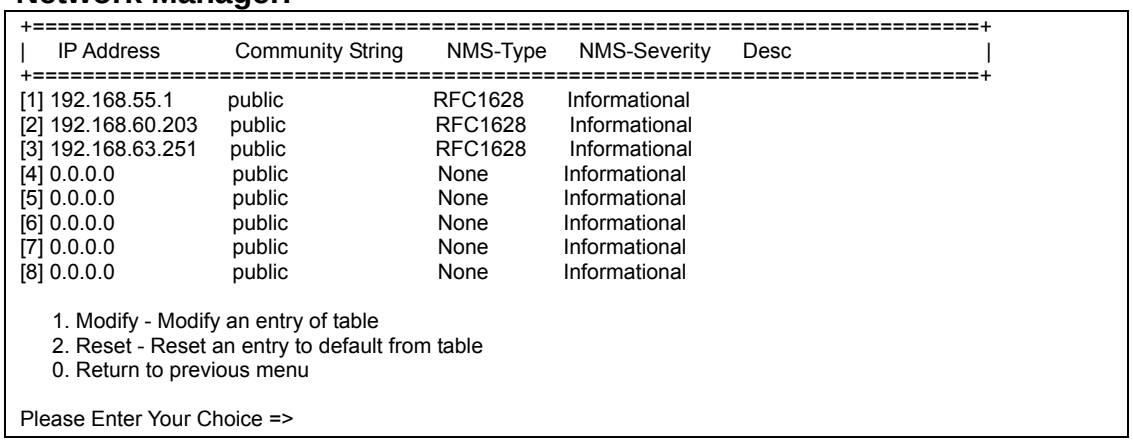

| IP Address Community String NMS-Type NMS-Severity Desc |
[1] 192.168.55.1 public RFC1628 Informational
[2] 192.168.60.203 public RFC1628 Informational
[3] 192.168.63.251 public RFC1628 Informational
[4] 0.0.0.0 public None Informational
[5] 0.0.0.0 public None Informational
[6] 0.0.0.0 public None Informational
[7] 0.0.0.0 public None Informational
[8] 0.0.0.0 public None Informational
1. Modify - Modify an entry of table
2. Reset - Reset an entry to default from table
0. Return to previous menu
Please Enter Your Choice =>

Figure 2-16 Setting Trap Receivers.

Back to Main Menu

Press “0” to return to the main menu.

End of WebPower console Configuration

After configuration was complete, press “0” to ending the console connection.
Reboot WebPower was not necessary, unless you press “6” to ending the console connection and force WebPower reboot again.
As so far, WebPower initialisation was completed.

NOTE: If you want WebPower to load the factory configuration default, you may press “5” to Reset Configuration To Default.

WebPower Configuration through TELNET command

1. Make sure that you have a TCP/IP network already installed.
2. Run command shell (i.e. Windows MS-DOS prompt).
3. WebPower will initially try to acquire an IP address from the DHCP network service, if exist, on the network.
4. Type “Telnet <*IP address obtained from DHCP*>” and press enter. Proceed to Step 7.
5. If there is no DHCP network service on the network, contact your network administrator to get an IP address for you workstation that has the same network’s address as the WebPower’s default IP address. ***The default* IP address of WebPower is 172.17.XXX.ZZZ where XXX and ZZZ is the last two pairs of the MAC address of WebPower in decimal.**
6. Type “Telnet 172.17.XXX.ZZZ” command and press enter.
7. From this point, the configuration procedures are the same as the configuration via RS-232.

WebPower Configuration through a Web Browser

Hardware Preparation of WebPower

1. Procure a workstation with Ethernet card on which a Web Browser is installed.
2. Connect the network cable (twisted-pair cable) from the workstation’s LAN port to an active 10/100-hub port.
3. Connect another network cable (twisted-pair cable) from the LAN port of the WebPower Pro to an active 10/100-hub port. (Figure 2-17).
4. Set the WebPower Pro DIP-switches, the switches 1 and 2 are OFF.
5. Turn on the UPS and wait for WebPower Pro to boot up (around 90 seconds).

Figure 2-17
Connecting the Ethernet cable from the LAN port of WebPower

Manipulates network routing table in your workstation

Normally, the first time you use WebPower, your workstation is unable to communicate to WebPower since they are not in the same IP subnet. However, you may use “route add” command to manipulate the network routing table in your workstation in order to carry out the WebPower configuration. If the IP address of the machine is in the same subnet as WebPower, just run the Web Browser directly.

1. Procure a workstation (Microsoft Windows 95, 98, ME, NT4.0, 2000, XP or later installed) and set up the TCP/IP protocol, if necessary.
2. Enter the following command to add a routing condition:

Route add 172.17.7.18 210.67.192.147

Assume the IP address of the workstation is 210.67.192.147.

Note1: Default IP address of WebPower is 172.17.XXX.ZZZ where XXX and ZZZ is the last two pairs of the MAC address of WebPower in decimal.
Ex: Mac address = 00 E0 D8 04 0A 15 then the default IP = 172.17.10.21

Note2: See the Windows manual for detailed information on how to add a routing condition to the PC.

Running the Web Browser (Netscape or Internet Explorer)

1. Make sure that you have a TCP/IP network already installed.
2. If there is no DHCP network service on the network, contact your network administrator to get an IP address for you workstation that has the same network's address as the WebPower's default IP address. ***The default* IP address of WebPower is 172.17.XXX.ZZZ where XXX and ZZZ is the last two pairs of the MAC address of WebPower in decimal.**
3. Start your Web Browser.

Enter the URL "http:\\172.72.XXX.ZZZ" in the address box where XXX and ZZZ is the last two pairs of the MAC address of WebPower in decimal, The WebPower home page will be shown on the screen. (Figure 2-18)

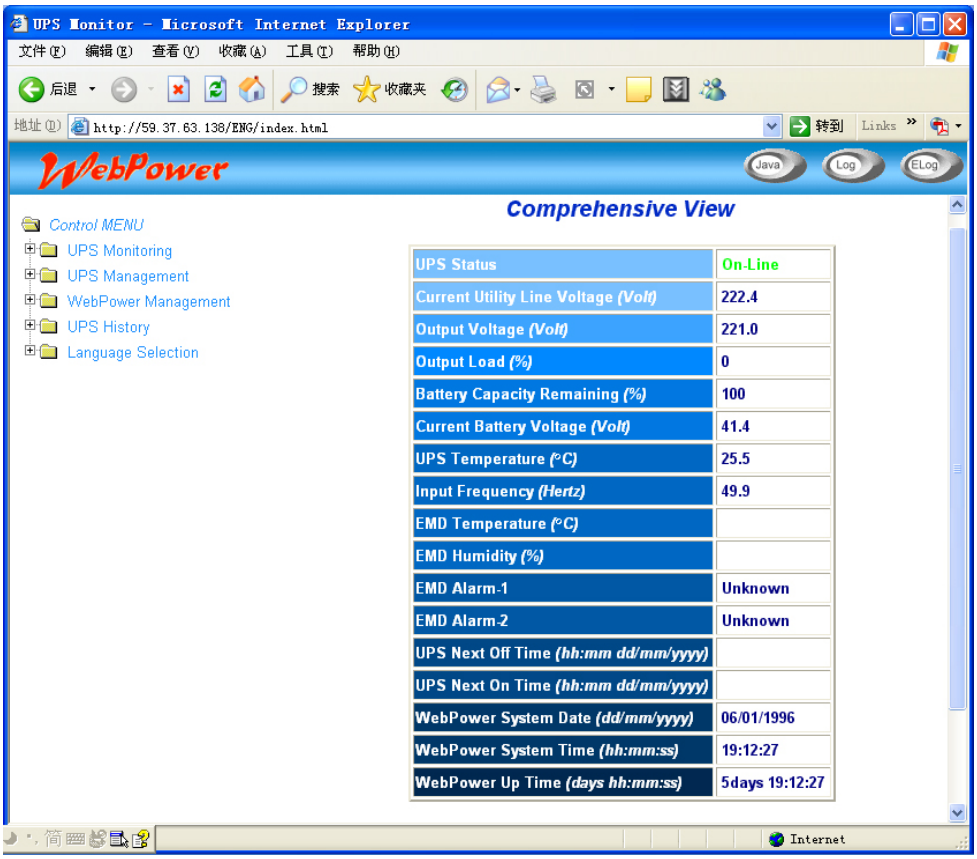


Figure 2-18 WebPower home page screen: Comprehensive View.

WebPower Initial Configuration

1. Select *WebPower Configuration* from the *WebPower Management* of the main menu to setup the network configuration parameters (Figure 2-19).
2. Click the *Become Administrator* button at the bottom of the screen. Enter ***WebPower*** as the login name and ***admin*** as the password. (Case sensitive)
3. Enter the WebPower IP address.
4. Enter the WebPower Gateway Address in the network.
5. Enter the WebPower Subnet Mask of the network.
6. Enter the IP address of the *Primary Time Server* and *Secondary Time Server* in the network.
7. Click the *Set Values* to save the settings.
8. Select *Date and Time* from the *WebPower Management* of the main menu and enter the appropriate date and time information in the specified format.
9. Select *Set Values* to save the date and time settings.
10. Select *WebPower Control* to enable or disable the network protocols (Figure 2-20).
11. Select *Apply* to save the changes.

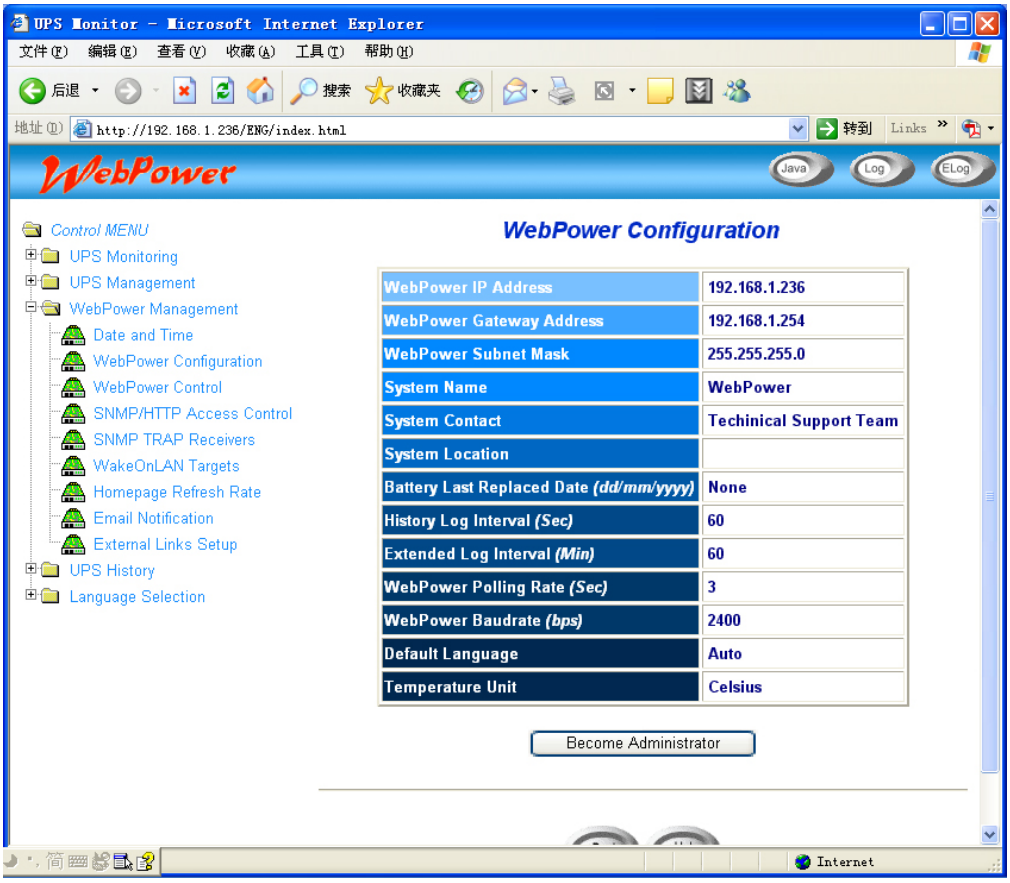


Figure 2-19 WebPower initial configuration page screen.

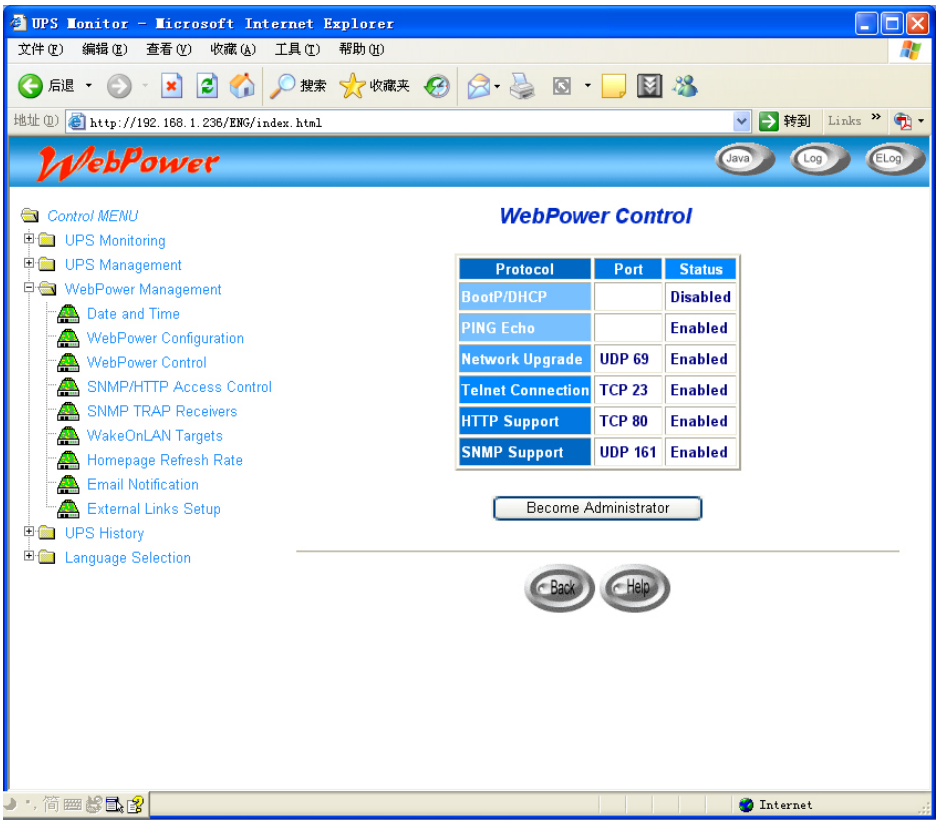


Figure 2-20 WebPower Control page screen.

Chapter 3 Managing WebPower/UPS via Web Browser

Note: If you do not add the IP address of the workstation to the *Access Control Table* (via RS232 or Telnet) or the *SNMP/HTTP Access Control* (via Web Browser) in WebPower, you can only view the UPS status; it will not be able to perform any configuration on WebPower/UPS. (See Pg. 16 *Access Control Table Setting* and Pg. 42 *SNMP/HTTP Access Control* for details.)

Utilising the WebPower Home Page

1. Start your Web Browser and enter WebPower IP address
2. The WebPower home page will be shown on the screen.
3. Select the help icon located at the bottom of each page for a detail description of each item.

UPS Monitoring

This main menu contains all the measurements and data read from the UPS.
All the sub-menus are read-only for all users; write-mode access is not allowed.

Comprehensive view

This page gives a snapshot of all the principal UPS parameters as shown in Figure 3-1. The page will refresh automatically. To set the refresh time, select the menu *WebPower Management – Homepage Refresh Rate*.

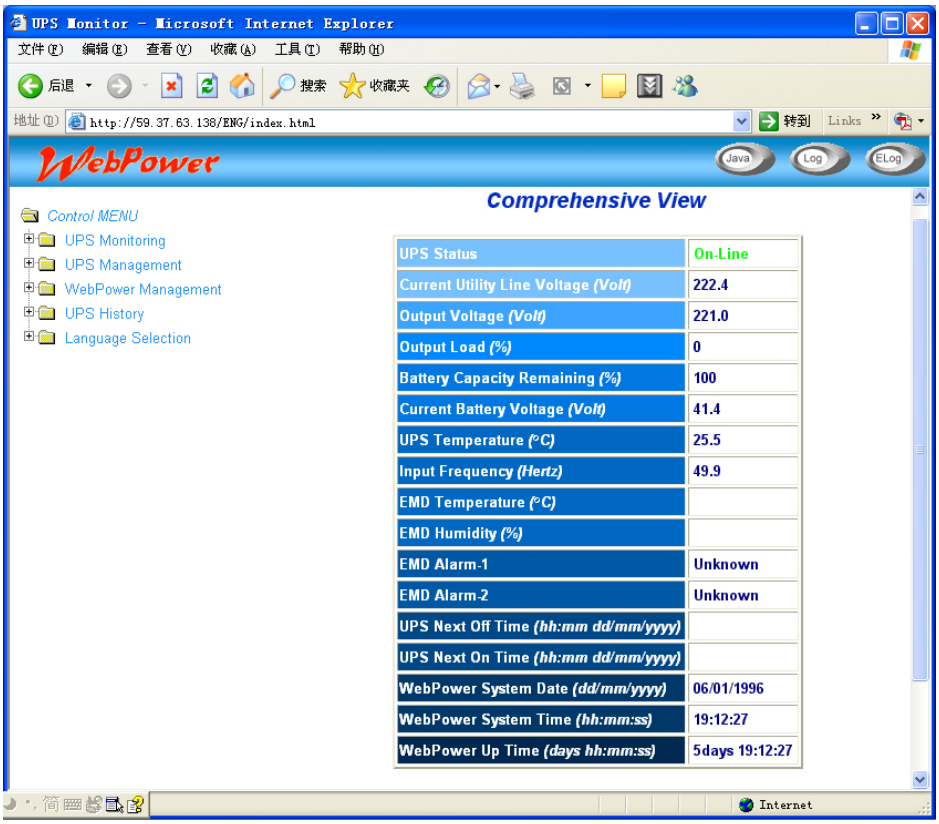


Figure 3-1 WebPower home page screen: Comprehensive View.

UPS Identification

Select *UPS Identification* from the *UPS Monitoring* menu of the home page to get a table of the UPS and WebPower Identification Parameters (Figure 3-2). User can determine the hardware and software revision of WebPower in the *WebPower Firmware Revision* field.

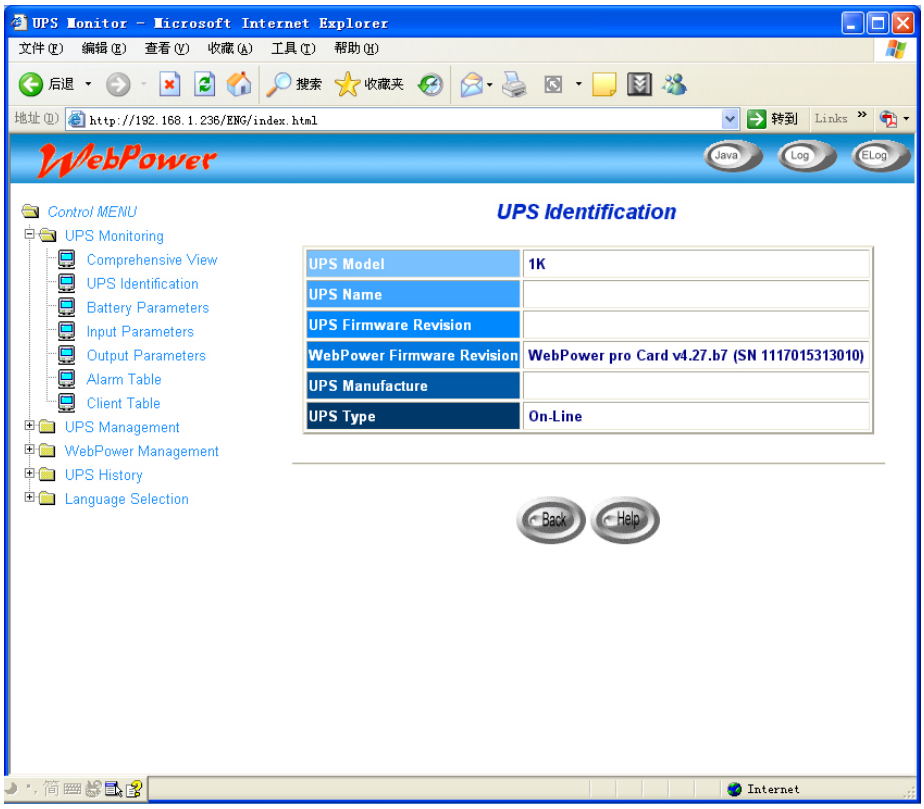


Figure 3-2 WebPower UPS Monitoring page screen: UPS Identification.

Battery Parameters

Select *Battery Parameters* from the *UPS Monitoring* on the main menu to get a table of the UPS battery parameters (Figure 3-3).

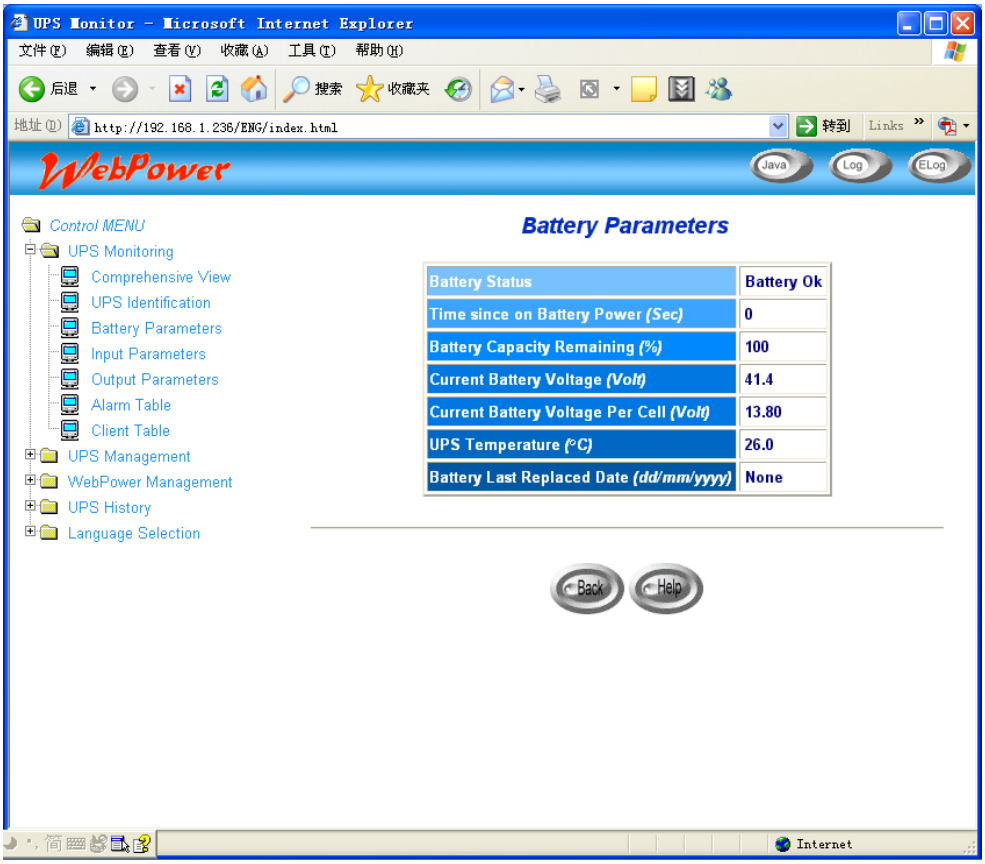


Figure 3-3 WebPower UPS Monitoring page screen: Battery Parameters.

Input Parameters

Select *Input Parameters* from the *UPS Monitoring* on the main menu to get a table of the UPS input parameters (Figure 3-4).

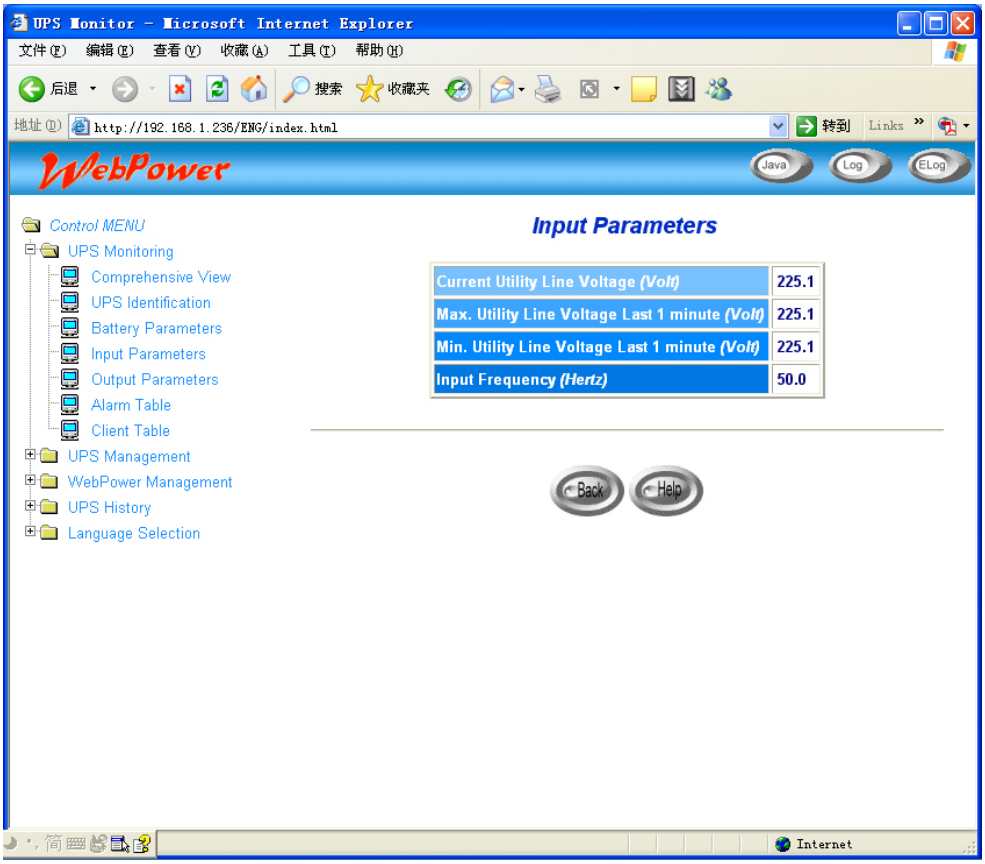


Figure 3-4 WebPower UPS Monitor page screen: UPS Input Parameters

Output Parameters

Select *Output Parameters* from the *UPS Monitoring* on the main menu to get a table of the UPS output parameters (Figure 3-5).

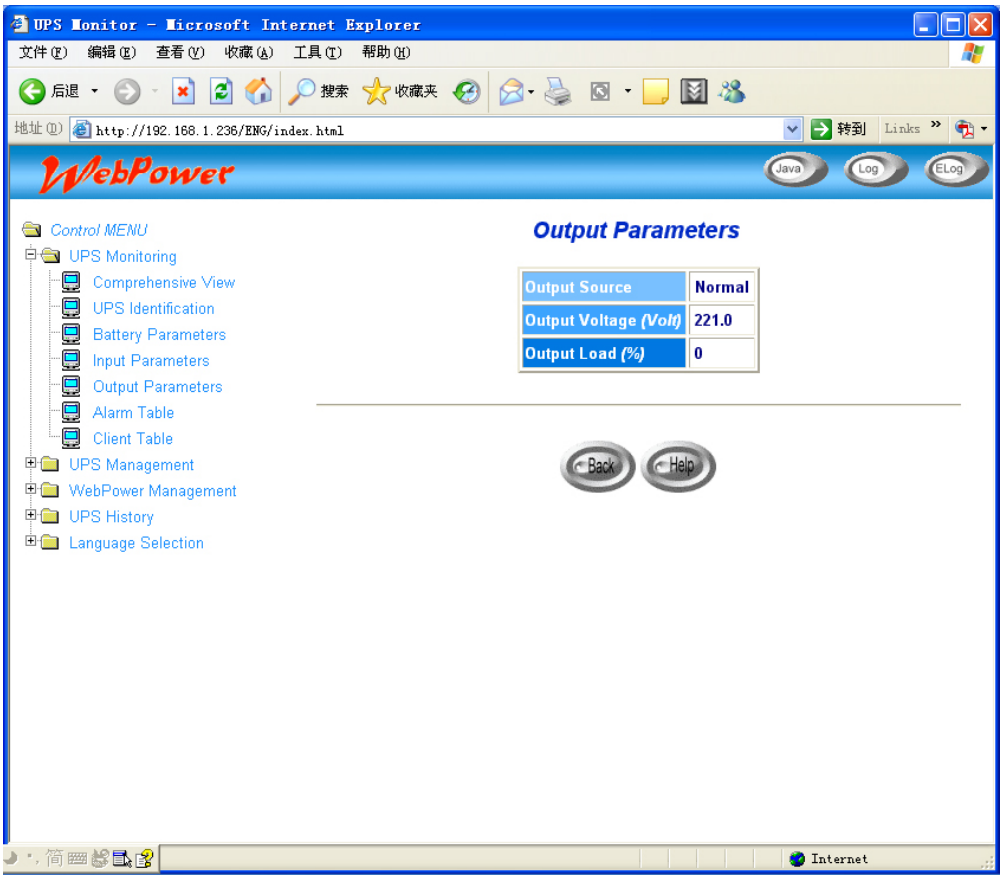


Figure 3-5 WebPower UPS Monitor page screen: UPS Output Parameters

Alarm Table

Select *Alarm Table* from the *UPS Monitoring* on the main menu to get a table of the UPS alarms presents (Figure 3-6).

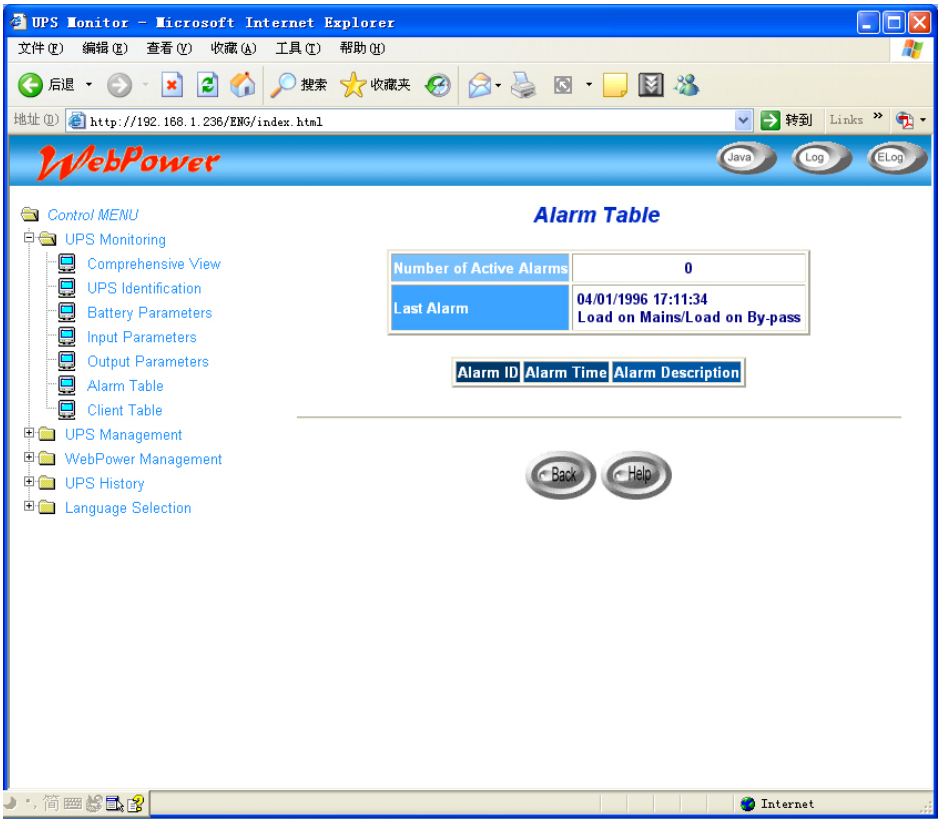


Figure 3-6 WebPower UPS Monitor page screen: Alarm Table

Client Table

Select *Client Table* from the *UPS Monitoring* on the main menu to get a table of the connected clients running the shutdown software (Figure 3-7)

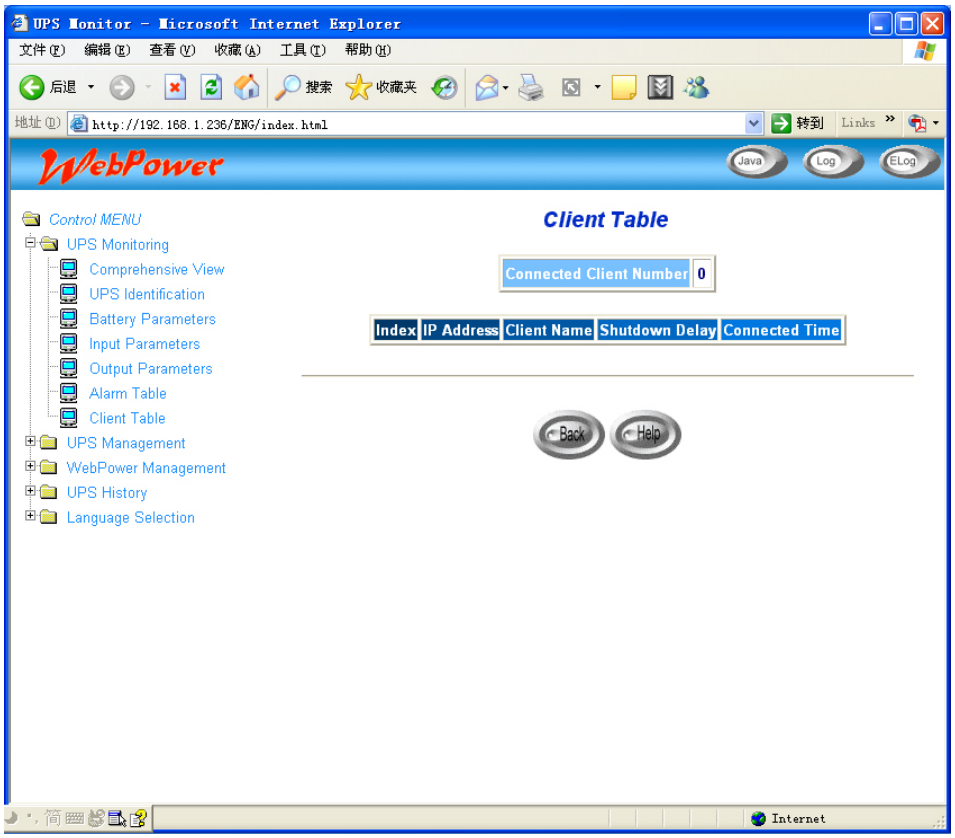


Figure 3-7 WebPower UPS Monitoring page screen: Client Table

UPS Management

This menu contains the control parameters of the UPS connected to the WebPower. All the sub-menus are available in read-only for all users, whereas only the administrator has access in read/write mode.

UPS Configuration

This menu displays the UPS nominal input and output data (Figure 3-8)

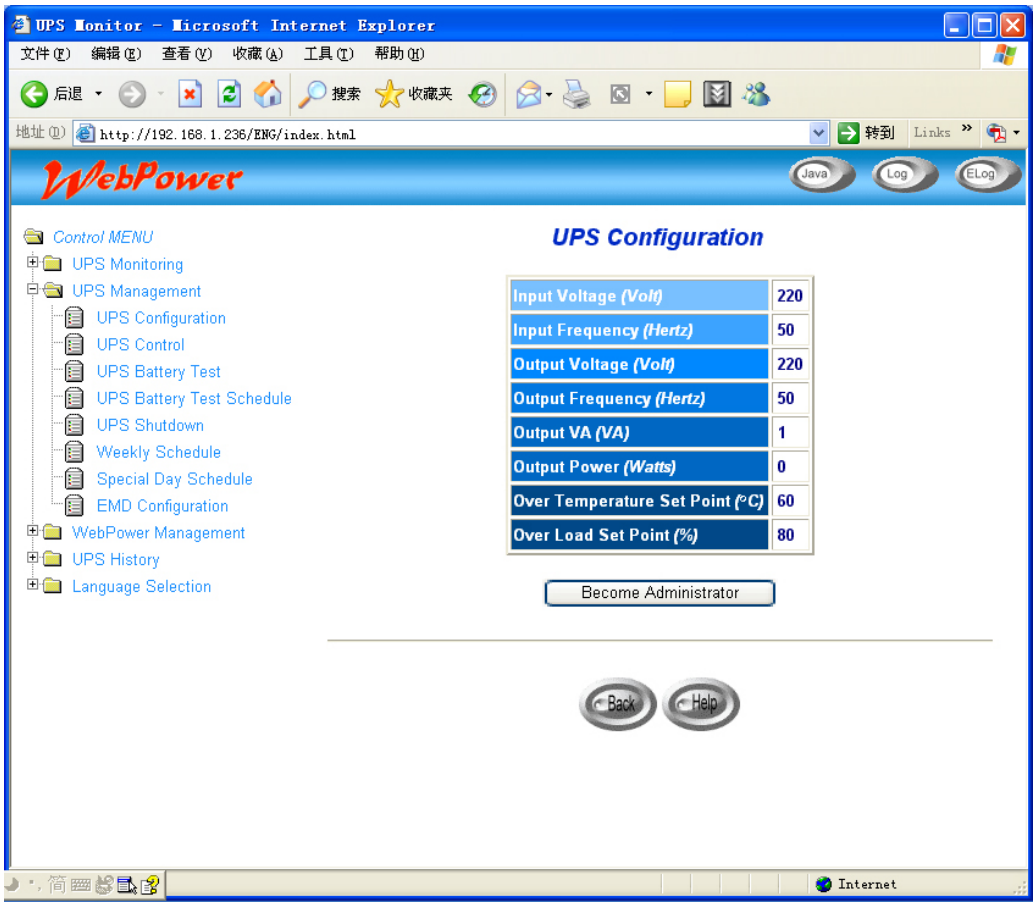


Figure 3-8 WebPower UPS Configuration screen

UPS Control

This menu lets you send the shutdown commands associate with the pre-set UPS shutdown delay time and UPS sleep time to the UPS manually. Some of the items in this menu are visible only to those having read/write access rights. (Figure 3-9)

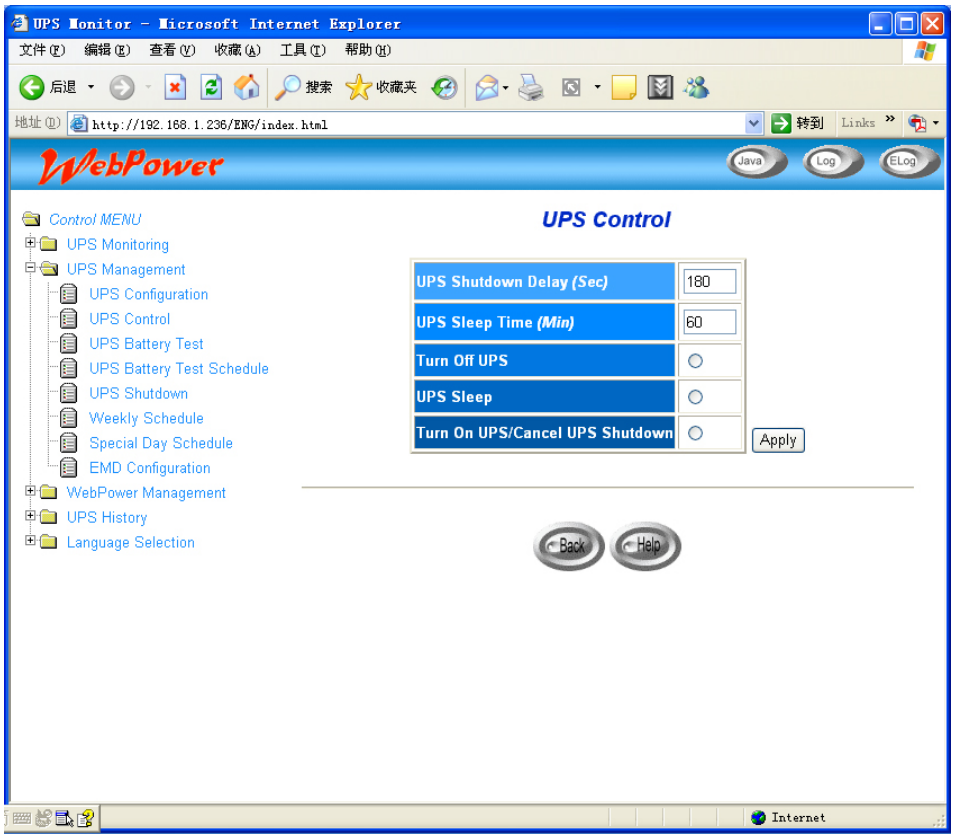


Figure 3-9 WebPower UPS Control screen

UPS Battery Test

This menu enables you to check the last battery test information and run the battery test, if the feature is available on the UPS (Figure 3-10). Some of the items in this menu are visible only to those having read/write access rights.

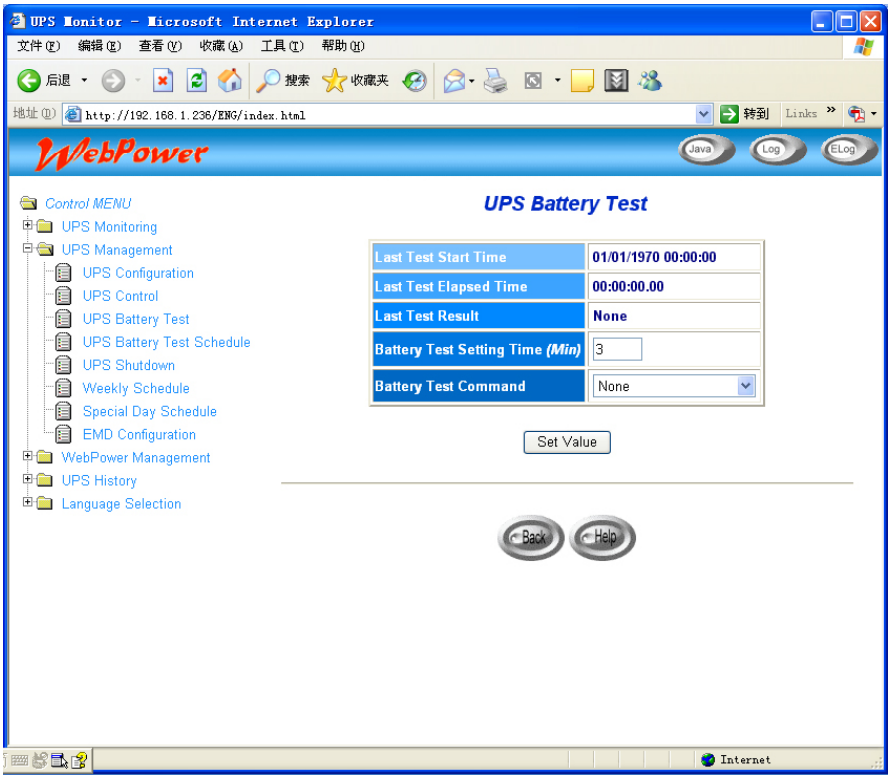


Figure 3-10 WebPower UPS Battery Test

UPS Battery Test Schedule

This menu enables you to run the battery test schedule, Available options are:
None - No action
Quick Test (10 sec) - Quick test for 10 seconds
Test Until Battery Low - Test until battery low
Timed Test - Test for the time specify in the Test Time column (Figure 3-11). Some of the items in this menu are visible only to those having read/write access rights.

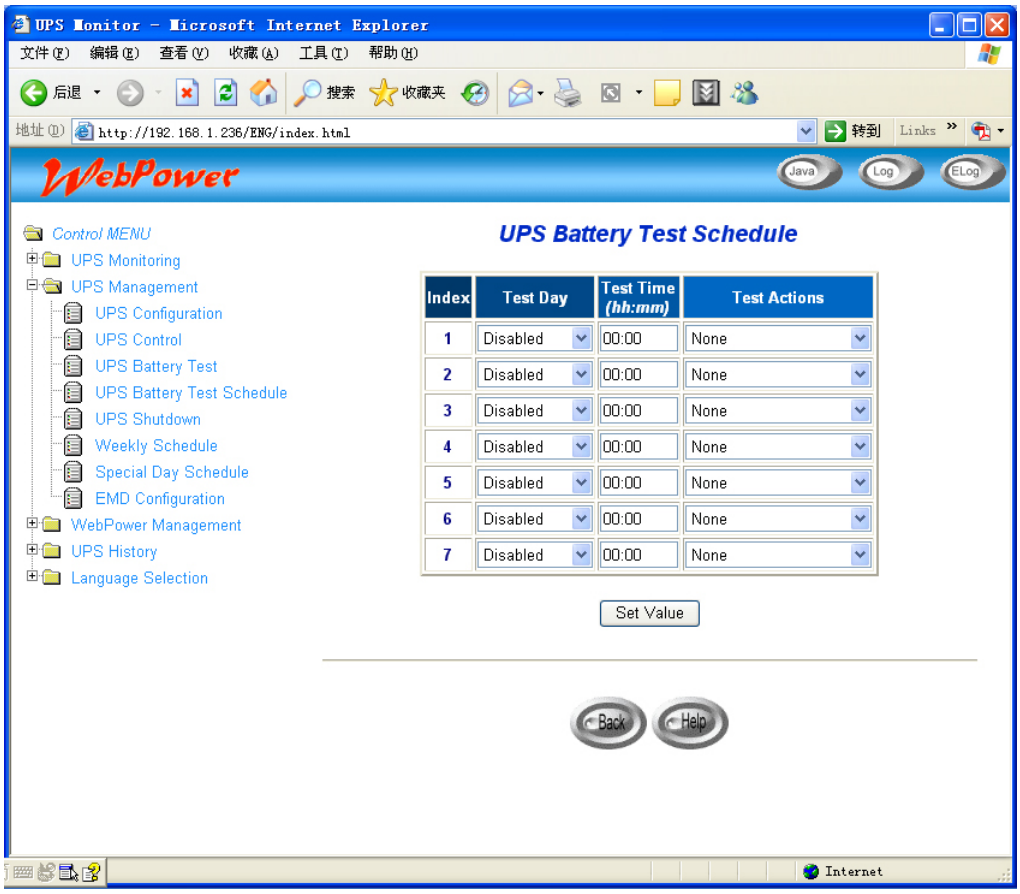


Figure 3-11 WebPower UPS Battery Test Schedule

UPS Shutdown

This menu lets you modify the parameters associated with the shutdown events (Figure 3-12).
The shutdown events available for commanding shutdown of the clients and UPS are:

1. **AC Failed** : Mains power supply down
2. **Battery Low** : Remaining battery charge low
3. **UPS Overload** : Output overload
4. **UPS Over Temperature**: UPS internal overheating
5. **Weekly Schedule** : UPS Shutdown/Restore pre-set for each week
6. **Special Day** : UPS Shutdown/Restore pre-set on certain day
7. **EMD Temperature over Threshold**: The EMD temperature sensor detects over high or under low temperature.
8. **EMD Alarm-1**: Alarm-1 sensor detects an active alarm.
9. **EMD Alarm-2**: Alarm-2 sensor detects an active alarm.

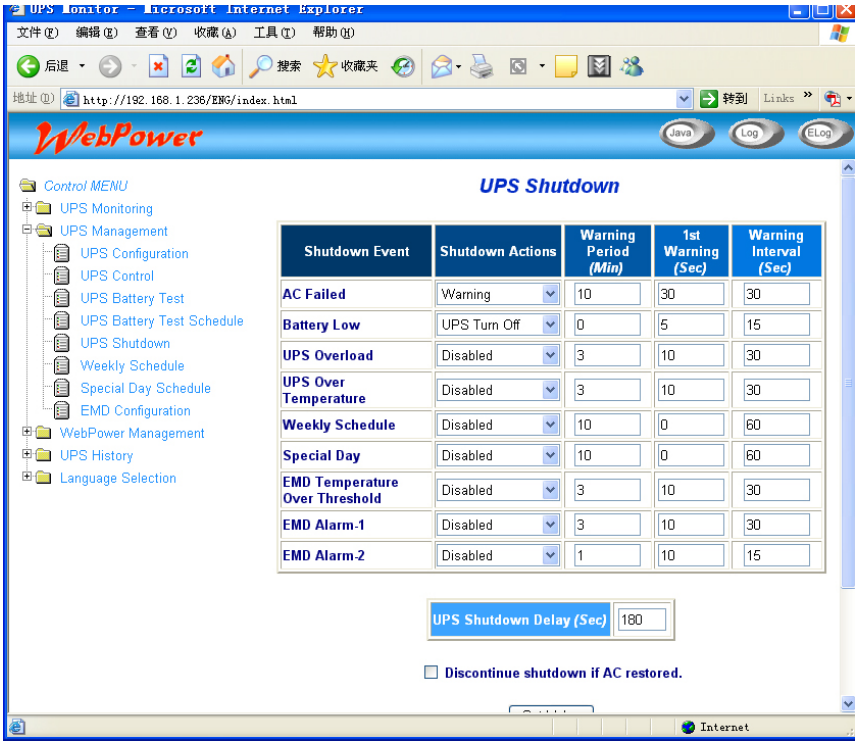


Figure 3-12 WebPower UPS Shutdown

When there is a shutdown event occurred, WebPower would take proper action as define on the *Actions* column correspond to the shutdown event. Available actions are:

Disabled: Action is disabled

Warning: Warning message will be broadcast to the connected clients

Client Shutdown: Warning message will be broadcast and shutdown command will be sent to the connected clients. UPS will still working without shutdown.

UPS Turn Off: Warning message will be broadcast and shutdown command will be sent to both the connected clients. Then UPS will be turned off

The time specifies in the *Delay* column is the time delay after the occurrence of the corresponding shutdown event. Shutdown command will be sending out after this delay time.

The *1st Warning* specifies the time of the first warning message to be broadcast on the screen of the connected clients. And, the *Warning Interval* specifies the frequency of the next warning message.

Weekly Schedule

This menu lets you modify the parameters of the shutdown/restore events associated with the days of the week (Figure 3-13).

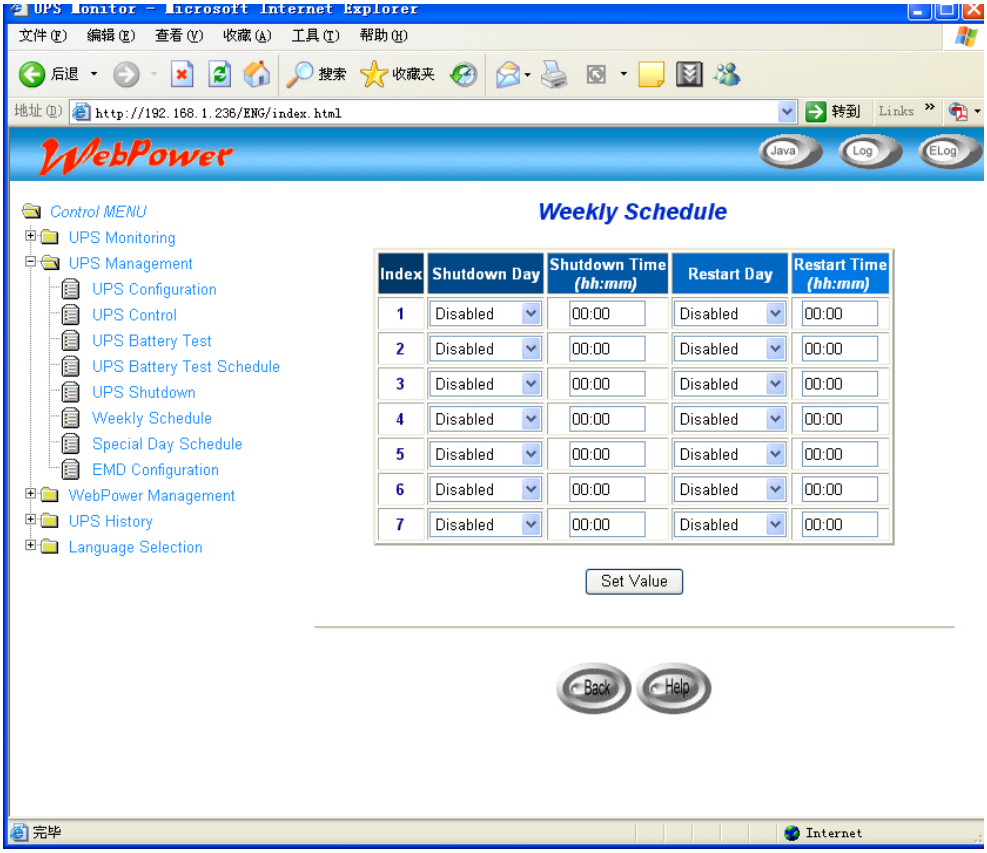


Figure 3-13 WebPower Weekly Schedule

Special Date Schedule

This menu lets you modify the parameters of the shutdown/restore events associated with certain days of the year (Figure 3-14).

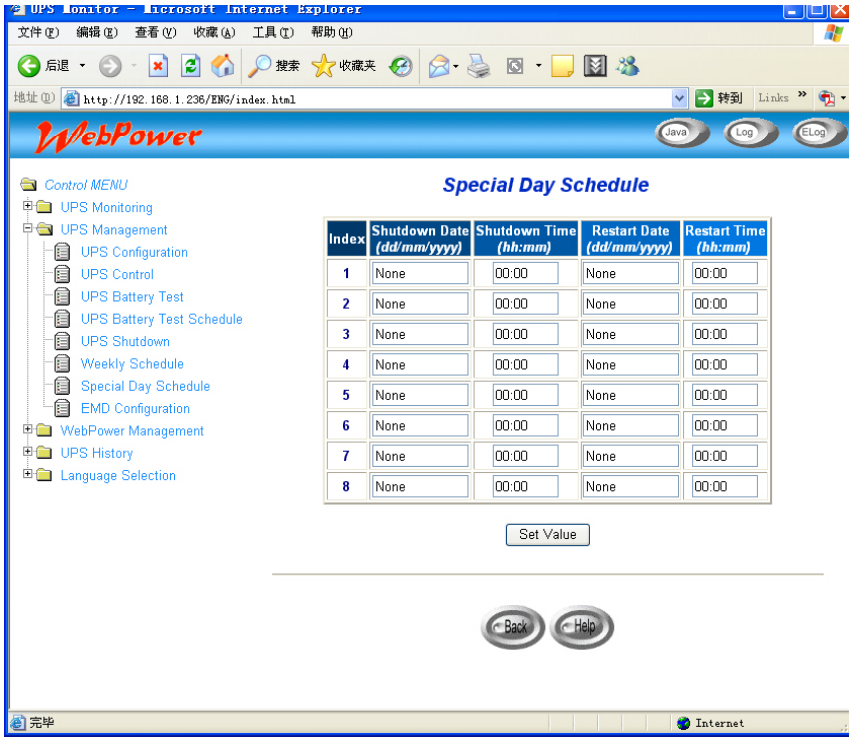


Figure 3-14 WebPower Special Date Schedule

EMD Configuration

This menu allows user to configure all necessary parameters of an EMD (Figure 3-15). Set the EMD status to Auto can auto detect the EMD type. There are two types of EMD “EMD-HT” and “EMD-T”. The Temperature and Humidity will show in the Comprehensive View. User must setup the EMD than could see this configuration page. About setup EMD device, please see the EMD_ installation_ manual_ V1.10 for detail.

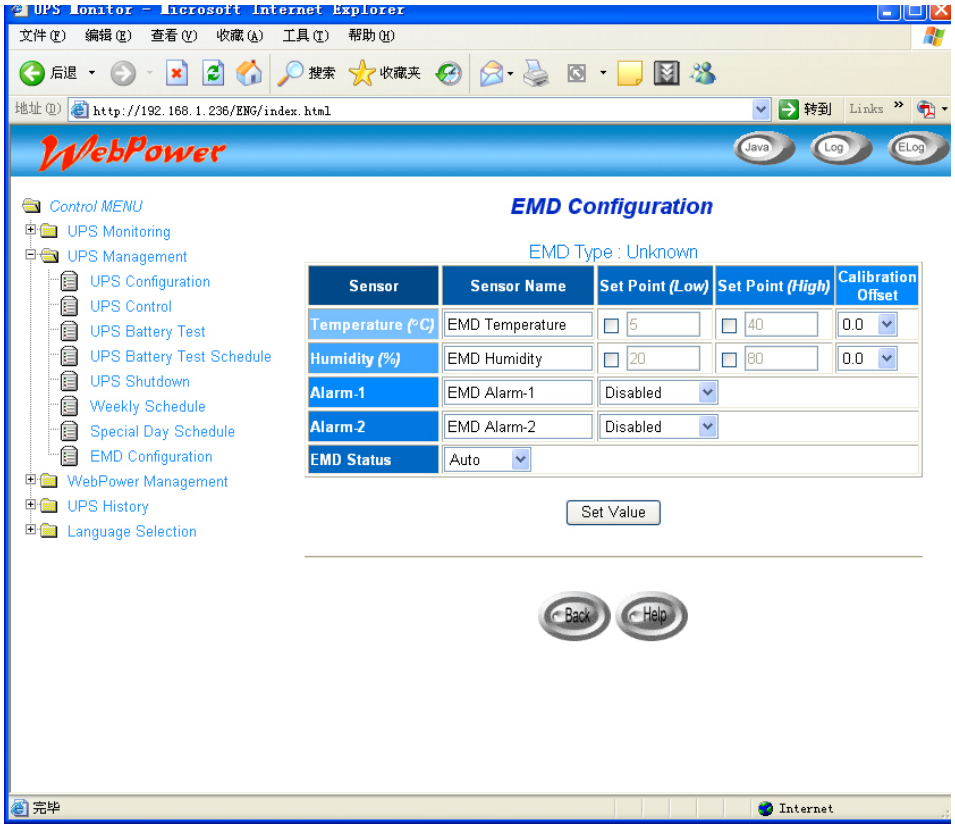


Figure 3-15 EMD Configuration screen

WebPower Management

Through this menu, you can display and modify the WebPower control parameters. All the menus are available in read-only for all users, whereas only the administrator has access in read/write mode.

Date and Time

This menu lets you set the WebPower internal date and time. There are three ways to set the Date and Time (Figure 3-16). Synchronize with computer time, Synchronize with NTP server or set the date and time by manual.

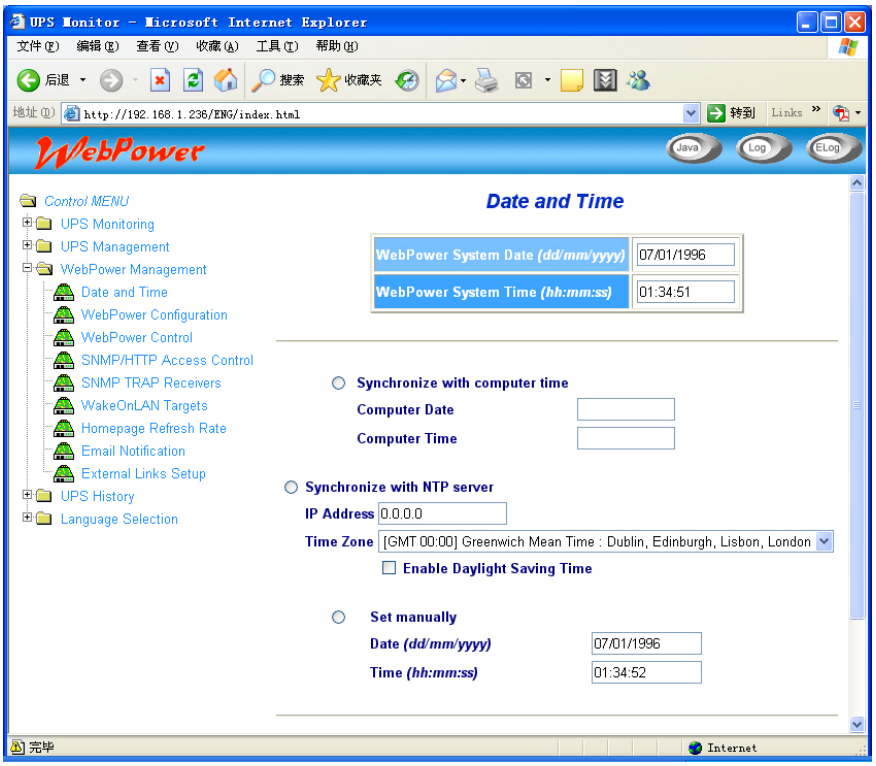


Figure 3-16 Date and Time

WebPower Configuration

This menu lets the administrator set the local network configuration parameters in WebPower. The basic variables for SNMP management can also be set.

1. **WebPower IP Address:** The IP address of the WebPower in dotted format (e.g. 192.168.1.236). Note that changing the IP Address of the WebPower, reboot was unnecessary.
2. **WebPower Gateway Address:** The IP address of the network gateway in dotted format (e.g. 192.168.1.254).
3. **WebPower Subnet Mask.** The Subnet Mask for your network (e.g. 255.255.255.0).
4. **System Contact:** SNMP Network Administrator string.
5. **System Name:** SNMP Network Administrator string.
6. **System Location:** SNMP Network Administrator string.
7. **Battery Last Replaces Date:** The date when the UPS system batteries were last replaced. Only the Administrator should reset this value.
8. **History Log Interval:** This value is the time in seconds to poll Input Voltage, Output Voltage, Load, Capacity, Battery temperature and Input frequency. These values are saved in the History Log. The maximum value for this setting is 28800 seconds (i.e. 8 hours).
9. **Extended History Log Interval:** This field shows the set interval, in minutes, to create an extended history log. After every interval, the UPS parameters will be consolidated and minimum, maximum and average values of these parameters will be stored as extended history log. This value can range between 3 and 9000 minutes.
10. **WebPower Polling Rate (sec):** Polling rate on which WebPower update the parameters from UPS.
11. **WebPower Baud Rate (sec):** The data transmission rate between the UPS and WebPower.

12. **Default Language:** Default language options included “English”, “Traditional Chinese”, “Simplified Chinese” and “Auto”. WebPower Home Page will be displayed using the language set in the Web Browser if “Auto” is selected.
13. **Temperature Unit:** Select the Temperature Unit to Celsius or Fahrenheit.

WebPower Control

This menu lets you enable or disable the communication protocols available in the WebPower and affect a restart and reset of the WebPower internal parameters. Some of the items in this menu are visible only to those having read/write access rights. (Figure 3-17)

1. **BOOTP/DCHP Status:** Enabling or disabling the Boot Protocol (BOOTP) / Dynamic Host Configuration Protocol (DHCP). These protocols are Internet standards used to get a dynamic IP address from a BOOTP / DHCP server.
2. **Ping Echo:** Enabling or disabling the WebPower to respond to Ping requests.
3. **Network Upgrade:** Enabling or disabling the Trivial File Transfer Protocol (TFTP) upgrade control. You can use **upgrade.exe** on Windows via TFTP to upgrade WebPower firmware.
4. **Telnet Connection:** Enabling or disabling the terminal to server application (Telnet) control process. The standard port is 23.
5. **HTTP Support:** Enabling or disabling the HTTP connection with the WebPower. The user may configure HTTP protocol to use a port number other than standard HTTP port (80).
6. **SNMP Support:** Enabling or disabling the SNMP connection with WebPower. The user may configure the SNMP protocol to use a port number other than the standard SNMP port (161).
7. **Reset Agent to Default:** Instructs WebPower to reset parameters to factory default value.
8. **Restart Agent:** Instructs WebPower to restart.

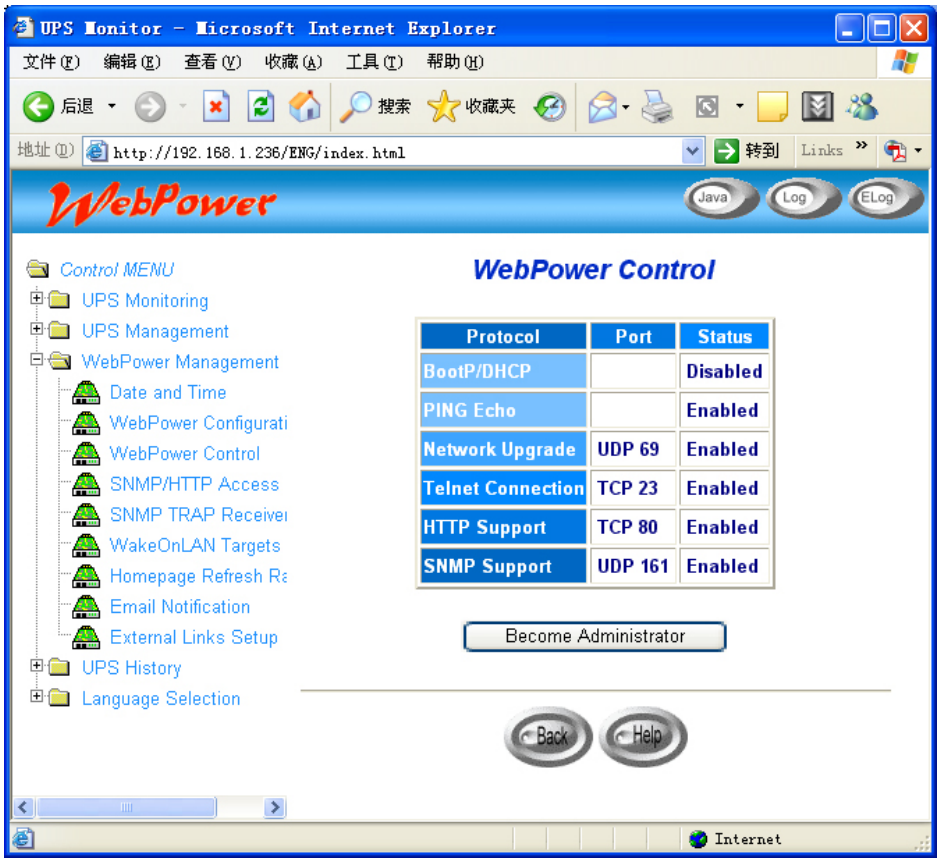


Figure 3-17 WebPower Control

SNMP/HTTP Access Control

This menu displays a list of the workstation enabled for read/write access to WebPower. (Figure 3-18) See **Appendix C** HTTP Security Control for detail

1. **Index:** The index number of the entry in the table.
2. **NMS IP Address:** The management station's IP address. 0.0.0.0 means entry not configured. 255.255.255.255 grant the access right to all IP. It also can configure all IP address in same subnet with same access right. Like 192.168.1.255
3. **Community:** Low-level password associated with the IP Address. The maximum length of the string is 16 characters.
4. **Access Type:** Access right associated with the IP Address. Available options are: NotAccess, Read, and Read/Write. If the IP Address was set to NotAccess or Read, it can't grant to administrator right even use Admin password.

Note: As administrator, can customize this configure to limit different workstation or subnet using different password with different Access Type. While different workstation or subnet using itself password with Read/Write Access Type to login, only allow modifying the WebPower parameters and itself Access Type, to prevent someone arbitrarily change unless it login with Admin password.

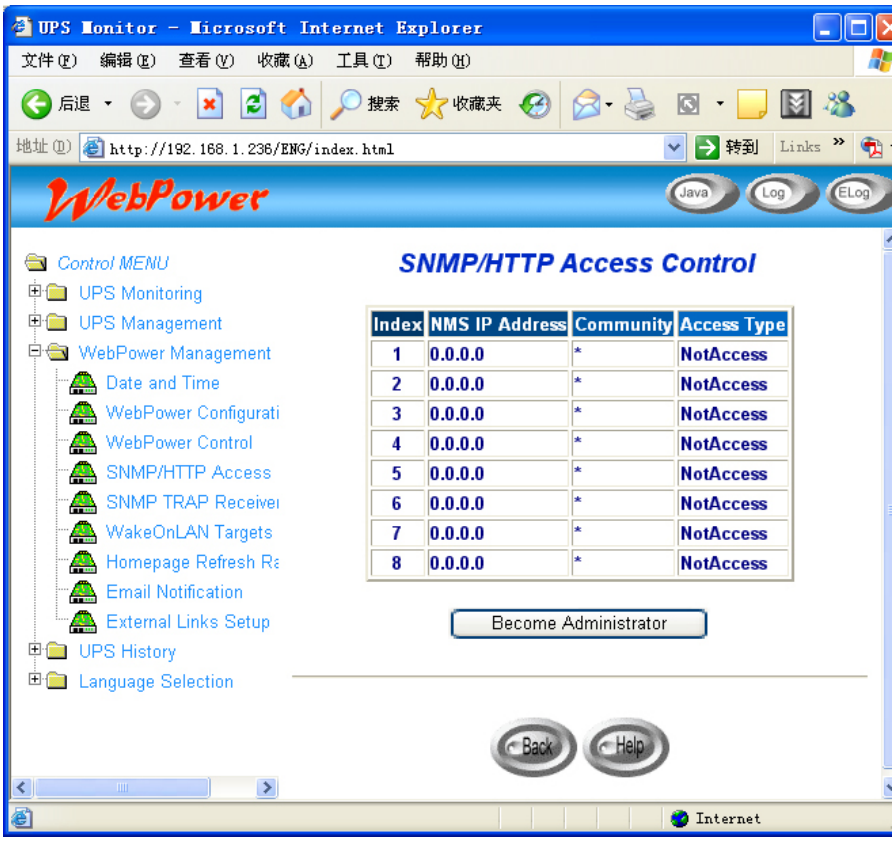


Figure 3-18 SNMP/HTTP Access Control

SNMP Trap Receivers

This table can hold a maximum of four entries. It holds the list of the IP address of the Network Management Stations (NMS), which will receive the SNMP traps send by WebPower. (Figure 3-19)

1. **Index:** The index number of the entry in the table.
2. **NMS IP Address:** The IP Address in dotted format of the NMS station to which the trap should be sent.
3. **Community String:** Low-level password associated with the IP Address. The maximum length of the string is 16 characters.
4. **Trap Type:** Types of traps to be received.
   - **None:** Traps are not be received
   - **RFC-1628 Trap:** Traps are received base on RFC-1628
   - **WebPower Trap:** Traps are received base on WebPower MIB
5. **Severity:** Set the level of the trap to be received.
   - **Information:** All traps are received
   - **Warning:** Trap that need to be noticed and are critical is received
   - **Severe:** The significant traps such as UPS failure and low-battery which cause the immediately halt the output of the UPS are received
6. **Description:** Customer description string.

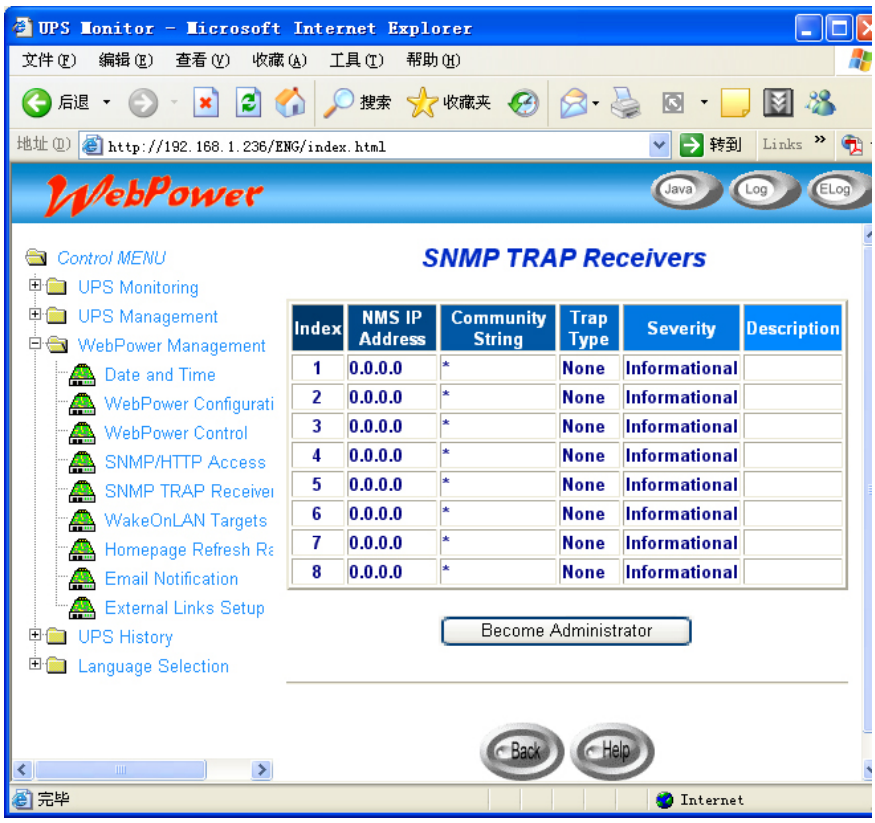


Figure 3-19 SNMP TRAP Receivers

WakeOnLAN Targets

WOL" function could start up client PC from network by MAC address. From this page, we can set 32 MAC Address of clients. When the clients shutdown cause of UPS shutdown events, after shutdown events returned to normal, WOL packet will send to client to start up PC. s (Figure 3-20).

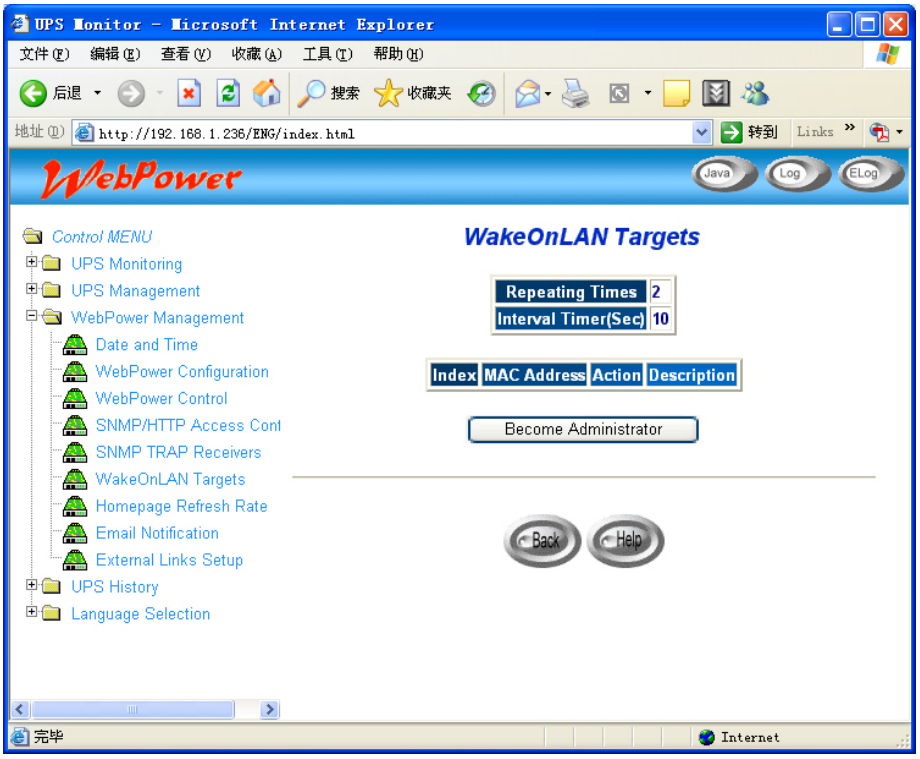


Figure 3-20 WakeOnLAN Targets

Homepage Refresh Rate

This menu lets the administrator set the refresh interval of the WebPower menu pages (Figure 3-21).

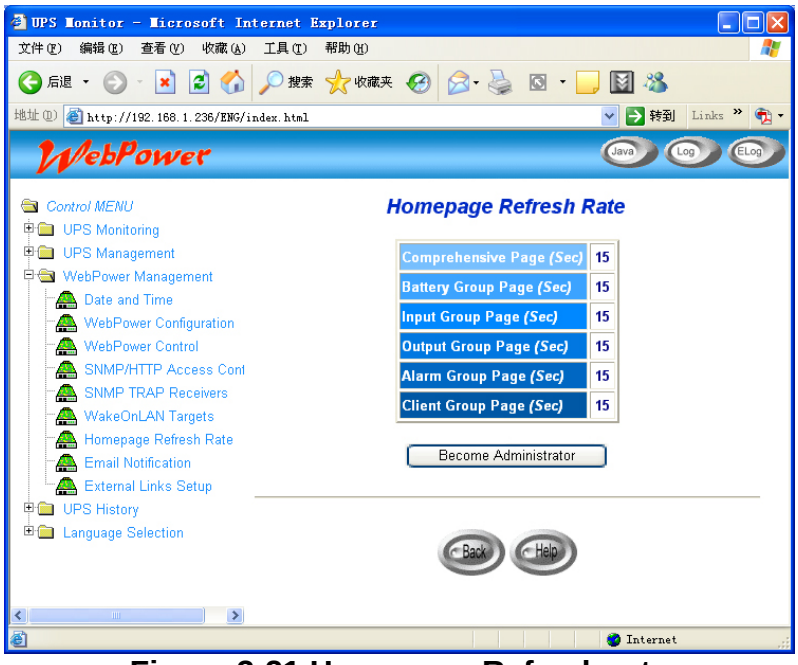


Figure 3-21 Homepage Refresh rate

Email Notification

This page describing of UPS email notification setting to let administrator configure Mail server and Mail receiver in order to receive notification or report from WebPower by email once power event was occurred. (Figure 3-22)

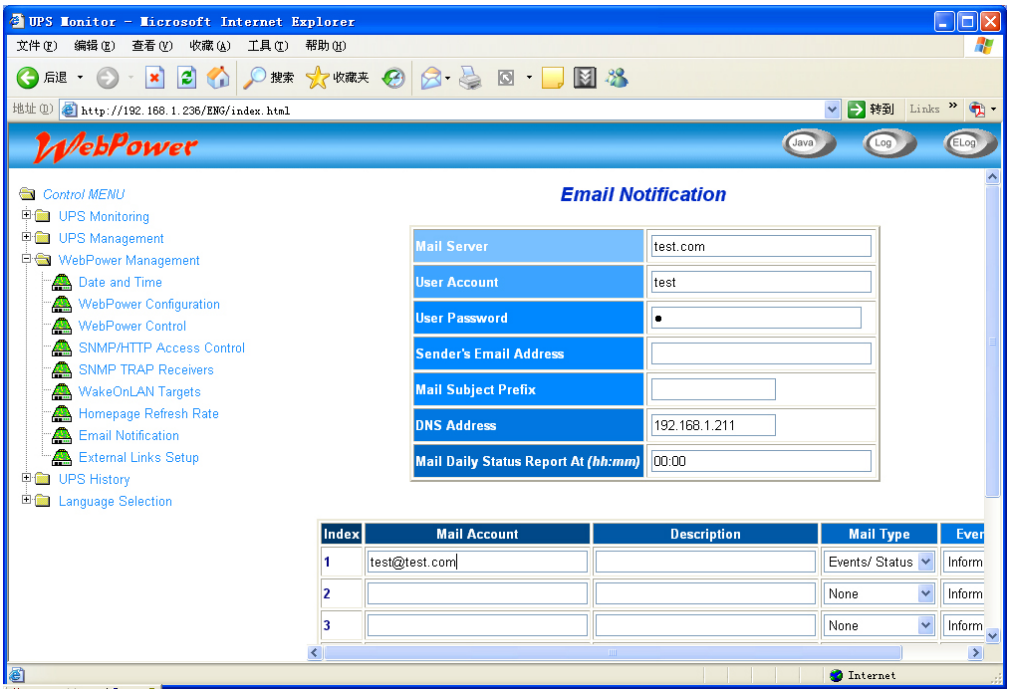


Figure 3-22 E-mail Notifications

1. **Mail Server**
   This item is the Hostname of a SMTP Mail Server that will be used to send email messages from the WebPower. If entering a Hostname, you are also required to enter the DNS Address.
2. **User Account**
   This item is the User Account of Mail Server. Default has no entry, and only required if Mail Server needed for authentication to send mail.
3. **User Password**
   This item is for entering the User Password of User Account.
4. **Sender's Email Address:** This field specify the content of the 'From' field of the Email. If this field left blank, the sender's address will be account@ip_address.
5. **Mail Subject Prefix:** The string prefix in the mail subject to identify the device which sends out the mail.
6. **DNS Address**
   This item is the IP Address of your network DNS server that's responsible for translating names into addresses, routing mail to its proper destination. Default, this field will contain 0.0.0.0.
7. **Mailing Daily Status Report At (hh:mm)**
   If you intend to have the WebPower send a Daily Status report to select Mail Receiver, you need to enter the time of day in 24-hour format at which time you want the email sent.

8. **Mail Receiver**
   This column is for entering the email address of the individual you wish the WebPower to send mail to.
9. **Description**
   This column is for entering describing of each Mail Receiver you configure for reference purposes.
10. **Mail Type**
    This column is for selecting what type of email is sent to a specific Mail Receiver. The choices are *None, Events, Daily Status, or Event/Status*.
    - **None:** allow you to disable the sending of email to a specific recipient.
    - **Events:** specifies that the recipient should receive event-related messages while event occur.
    - **Daily Status:** specifies that the recipient should receive the Daily Status message while "Mailing Daily Status Report At (hh:mm)" setting time is up. The message contains three file attachments containing information logged by the WebPower (in .csv format suitable for viewing in Microsoft Excel): UPS History Log contents, UPS Events Log, WebPower Events Log.
    - **Events/Status:** specifies that the recipient should receive an email message containing the event-related notification and the three file attachments (as described above), each time an event notification is sent.

11. **Event Level**
    This column is for selecting the Severity level of notification you wish to send to each Mail Receiver configured to be sent Mail Type: Events or Events/Status. This filter is based on the SNMP-based traps (Events) and allows selection of Informational, Warning or Severe. Refer to the MIB documentation for more information.

External Links

This page describes the setting of External Links. Up to four links can be setup by this page, each link can configure to an external web page that user can easily to connect to related web pages. Such as another UPS with WebPower card, or technical support homepage. (Figure 3-23)

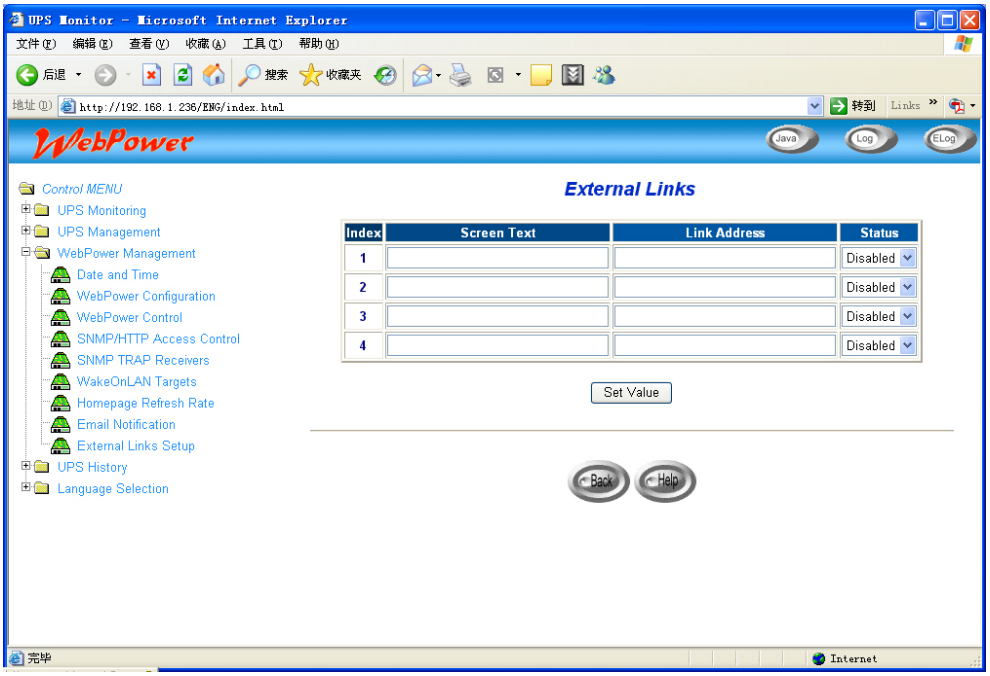


Figure 3-23 External Links

Screen Text

This is the description of hyperlink name, which will display on the menu tree for user's reference.

Link Address

This field defines the web page location to be connected, in IP address or URL format.

Status

This field controls the visibility of this hyperlink on menu tree. Setting "Disable" will make this hyperlink invisible from menu tree.

UPS History

Through this menu you can view all types of UPS & WebPower log messages displayed in chronological order such as the *UPS History Log*, *UPS Extended Log*, *UPS Events Log* and *Agent Events Log*. These log messages can help you detect and diagnose problems with your WebPower.

UPS History Log

To save the history log to a file in Microsoft Excel format, go to the *Clear & Save Log Data* sub-menu and click on the link *UPS History Log* under the *Save Log Data* title bar.

1. **Log Date:** Date on which the recording was made
2. **Log Time:** The time in a 24-hour format when the values were recorded
3. **Input Voltage:** The input voltage in Volts at the time of recording
4. **Output Voltage:** The output voltage in Volts at the time of recording
5. **Output Load:** This shows the load on the UPS in terms of percentage at the time of recording
6. **Battery Capacity:** The remaining battery capacity expressed in percent of full capacity
7. **Input Frequency:** The input frequency in Hertz at the time of recording
8. **UPS Temperature:** The temperature of the UPS battery in Celsius at the time of recording
9. **EMD Temperature:** The current EMD temperature.
10. **EMD Humidity:** The current EMD humidity.

UPS Extended Log

This page gives a consolidated view of the UPS parameters taken over a period. For each of the UPS parameters, minimum, maximum and the average values are shown in each of the records. The Administrator can change the consolidation interval by changing the value of the *Extended Log Interval* in *WebPower Configuratio*n page. The existing log is overwritten when the maximum numbers of entries are reached.

1. **Start Date:** Date on which the recording was made
2. **Start Time:** The time in a 24-hour format when the values were recorded
3. **End Date:** The ending date of the consolidation interval for the record
4. **End Time:** The ending time of the consolidation interval for the record
5. **Input Voltage:** The minimum, maximum and average values of the input voltage at the time of recording
6. **Output Voltage:** The minimum, maximum and average values of the output voltage at the time of recording
7. **Output Load:** The minimum, maximum and average values of the output load at the time of recording
8. **Battery Capacity:** The minimum, maximum and average values of the battery capacity at the time of recording
9. **Input Frequency:** The minimum, maximum and average values of the input frequency at the time of recording
10. **UPS Temperature:** The minimum, maximum and average values of the UPS temperature at the time of recording

11. **EMD Temperature:** The minimum, maximum and average values of the EMD temperature at the time of recording.
12. **EMD Humidity:** The minimum, maximum and average values of the EMD humidity at the time of recording.

UPS Event Log

This table lists all the events that have occurred since the table was cleared. The existing values are overwritten when the maximum number of entries (rows) has been reached.

1. **Date:** The date when the UPS event occurred
2. **Time:** The time when the UPS event occurred
3. **Event Description:** The description of the UPS event occurred

WebPower Events Log

This menu lists all the WebPower events that have occurred since the table wad cleared. The Administrator has the access right to delete the entries of the table.

1. **Date:** The date when the agent event occurred
2. **Time:** The time when the agent event occurred
3. **Event Description:** The description of the agent event occurred

Clear & Save Log Data

This page lets the Administrator saves WebPower log data to a file in Microsoft Excel format. Administrator is also able to clear specific log data or choose to clear the log data after saving the log data.

1. **Clear Log Data**: Administrator can clear the specific log data by putting a check mark beside it and click the Clear button.
2. **Clear the corresponding log data as you click the hyper-link below:** Administrator can choose to clear the log data after saving the log to a file. Select Yes or No and click the Apply button. Default value is set to "No"
3. **Save Log Data:** Administrator can save the various WebPower log data to a file with the extension .csv that can be opened and read in MS Excel.

Note: When you mouse click any one of the hyper-link here while the "Clear the corresponding log data as you click the hyper-link below" selection is set to “Yes”, the corresponding log data will be lost even if you cancel the operation.

Language Selection

Through this menu you can choose different language immediately that you preferred. For users using different languages to browsing WebPower at same time. Language options included “English”, “Traditional Chinese”, and “Simplified Chinese”. Language will switch immediately once you click on the option, and it didn’t related to default language setting of WebPower Management. (Figure 3-24)

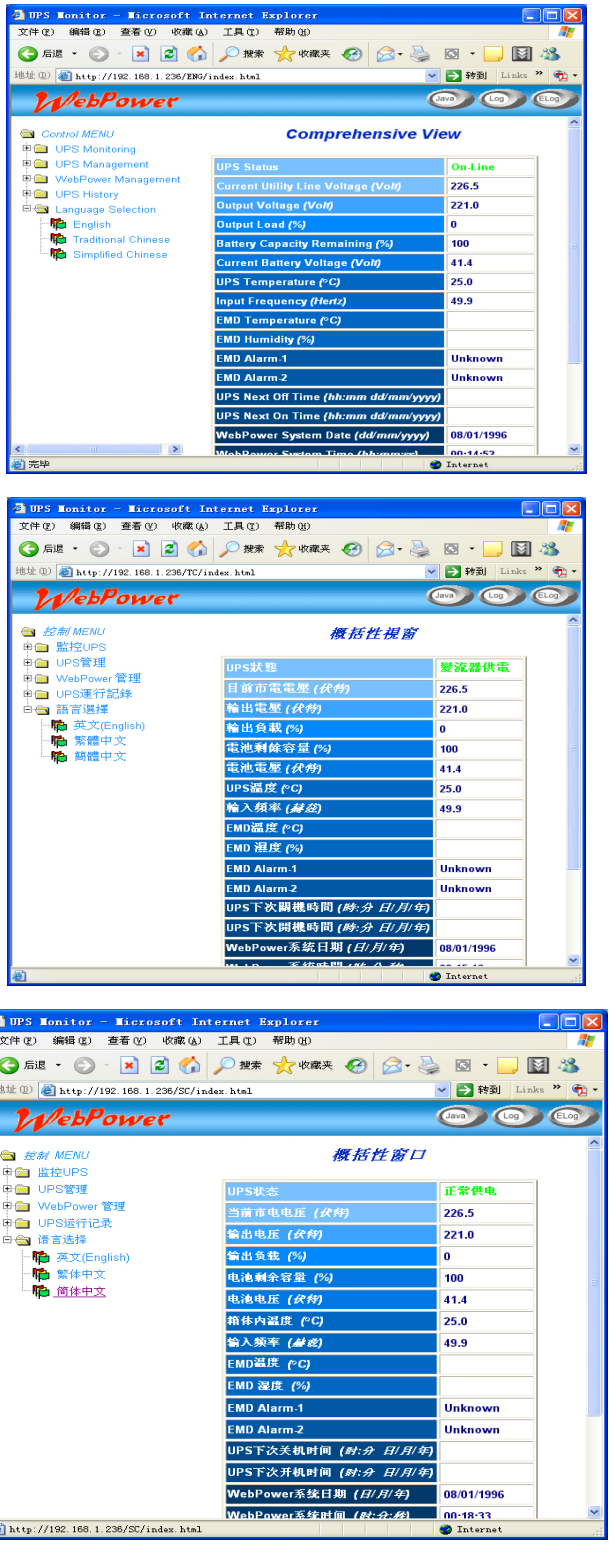


Figure 3-24 Language Selections

Extra Browsing Options-PDA & WAP

WebPower now provide more easy of using remote browsing ways. User can get the UPS status through PDA or WAP mobile phone, which own ability to connect to Internet already. According to every manufacturer setting was different, please reference to PDA and WAP User Manual for connect to Internet. If your PDA or WAP can browse Internet, You can start browsing the UPS status by input the WebPower address.

PDA

Please input on PDA: "WebPower address/PDA" or "WebPower address/P"

Ex: HTTP://192.168.11.100/PDA or HTTP://192.168.11.100/P you can see the UPS status page. (Figure 3-25)

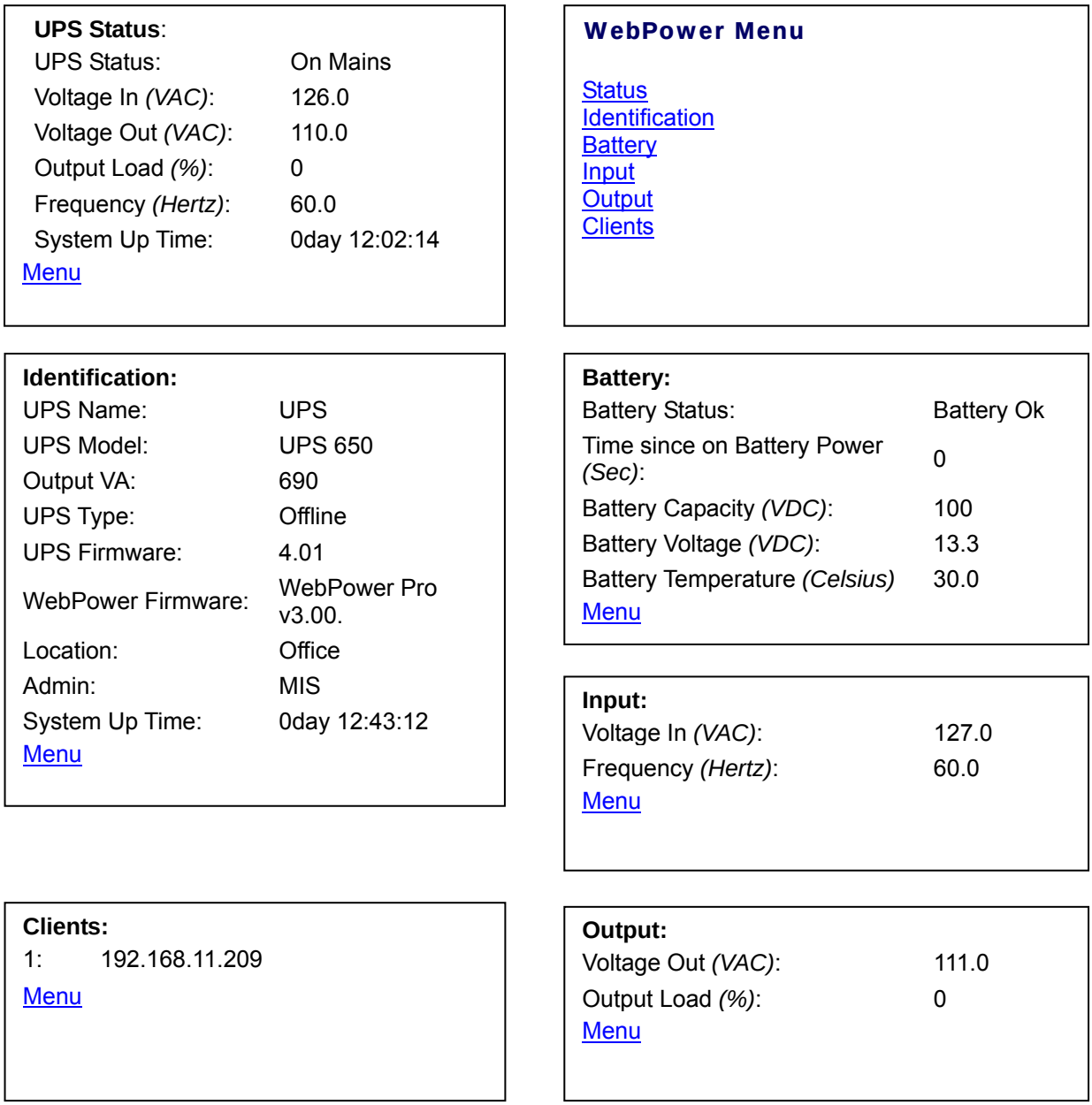


Figure 3-25 Extra Browsing Options -PDA

WAP

Please input on WAP phone: “WebPower address/WAP” or “WebPower address/P”

Ex: HTTP://192.168.11.100/WAP or HTTP://192.168.11.100/W you can see the UPS status page. (Figure 3-26)

Figure 3-26 Extra Browsing Options -WAP

Chapter 4 Monitoring WebPower/UPS via Java Monitor

WebPower provides three real-time graphical user interfaces written in Java applet to give user an exceptional way to monitoring the UPS in LAN or WAN.

Java monitor: Display the UPS key parameters in graphic representation.

UPS History Log monitor: Display the UPS history log in graphic representation.

UPS Extended History Log monitor: Display the UPS extended history log in graphic representation.

Java Monitor

By clicking the Java button

at the top right-hand side on the WebPower Home Page, a Java Monitor will be open in a separate window. This monitor displays the UPS key parameters – AC input voltage, AC output voltage, UPS load, battery capacity, UPS temperatures, and Input frequency in graphic representation. In addition, this monitor has a function icon, a status bar that can display the current UPS status and an alarm window that can display the current UPS alarms.

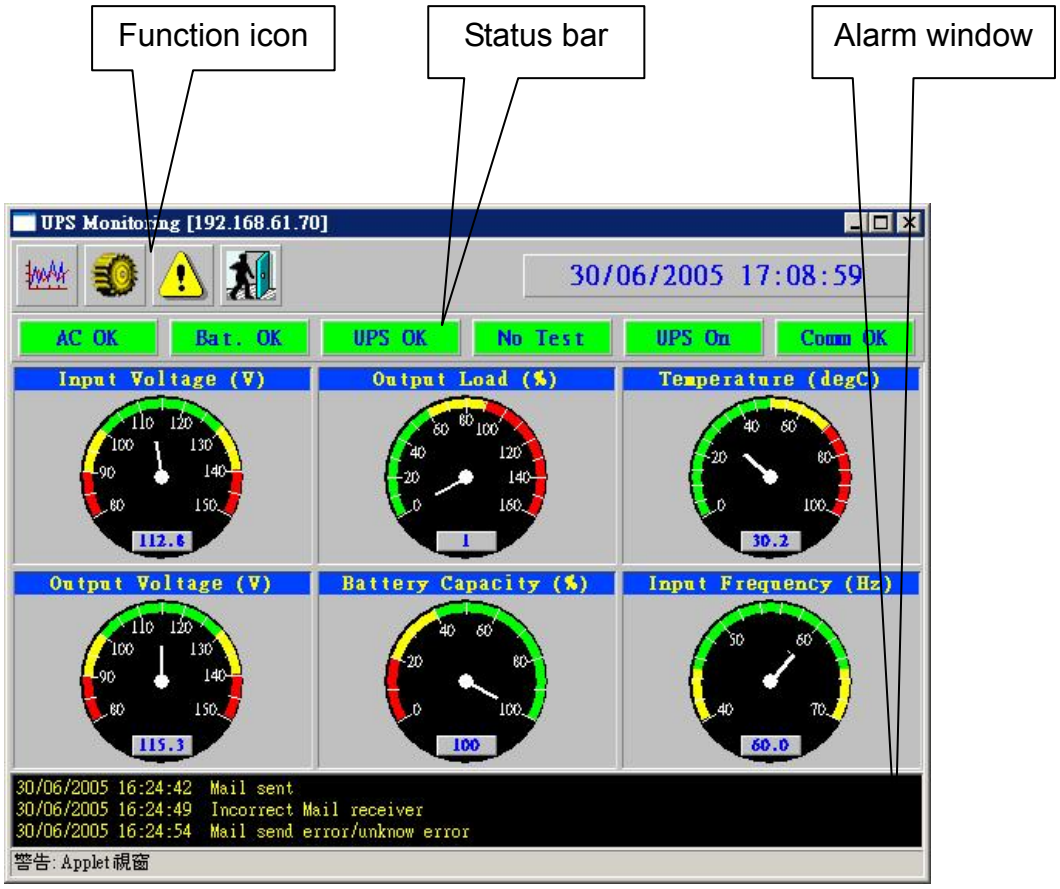


Figure 4-1 WebPower Java Monitor

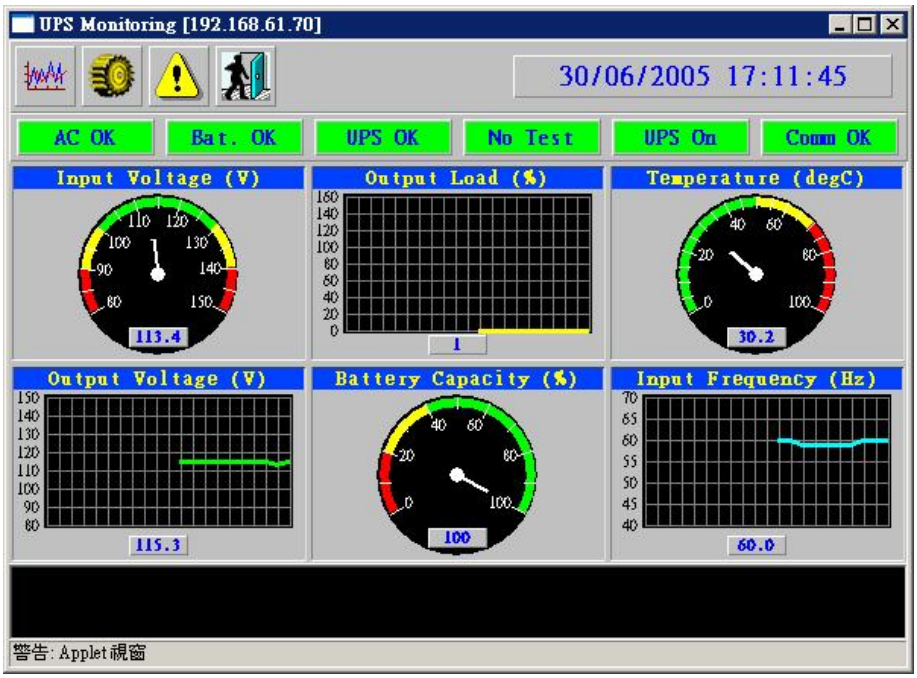


Figure 4-2 WebPower Java Monitor

Display switch-Two different display styles (Gauge or Overall Chart presentation) of the UPS key parameters can be choosing from. This icon is used to switch the display from gauge presentation to chart presentation and vice versa.

Poll Rate- Configure the poll rate that the Java monitors to get the next value of the UPS parameters. Default is 5 seconds.

Event Message- Enable and disable display of the warning messages.

Exit – Exit from Java monitor.

Status Bar

Figure 4-3 Status Bar in Java Monitor

The status bar displays the current status of the UPS. Green colour represent that the UPS is in normal condition. If WebPower receives a status change of the UPS, for example AC failure, the AC OK box will then change to red colour and displays AC fail represent that the UPS is in AC failure state.

Alarm Windows

When WebPower receives a change in the status of it own or of the UPS, it displays a specific message in the *Alarm Window.* This type of status change message is an alarm. The *Alarm Window* displays the active alarms on the UPS and WebPower.

UPS History Log Monitor

By clicking the Java button

at the top right-hand side on the WebPower Home Page, a UPS History Log Monitor will be open in a separate window. This monitor displays the UPS history log in line graph. By default, all the UPS parameters will be display on the same graph. You can select any combination of the parameters to be displayed on the graph by checking the check box beside each parameter on the monitor screen and click the *Refresh* button.

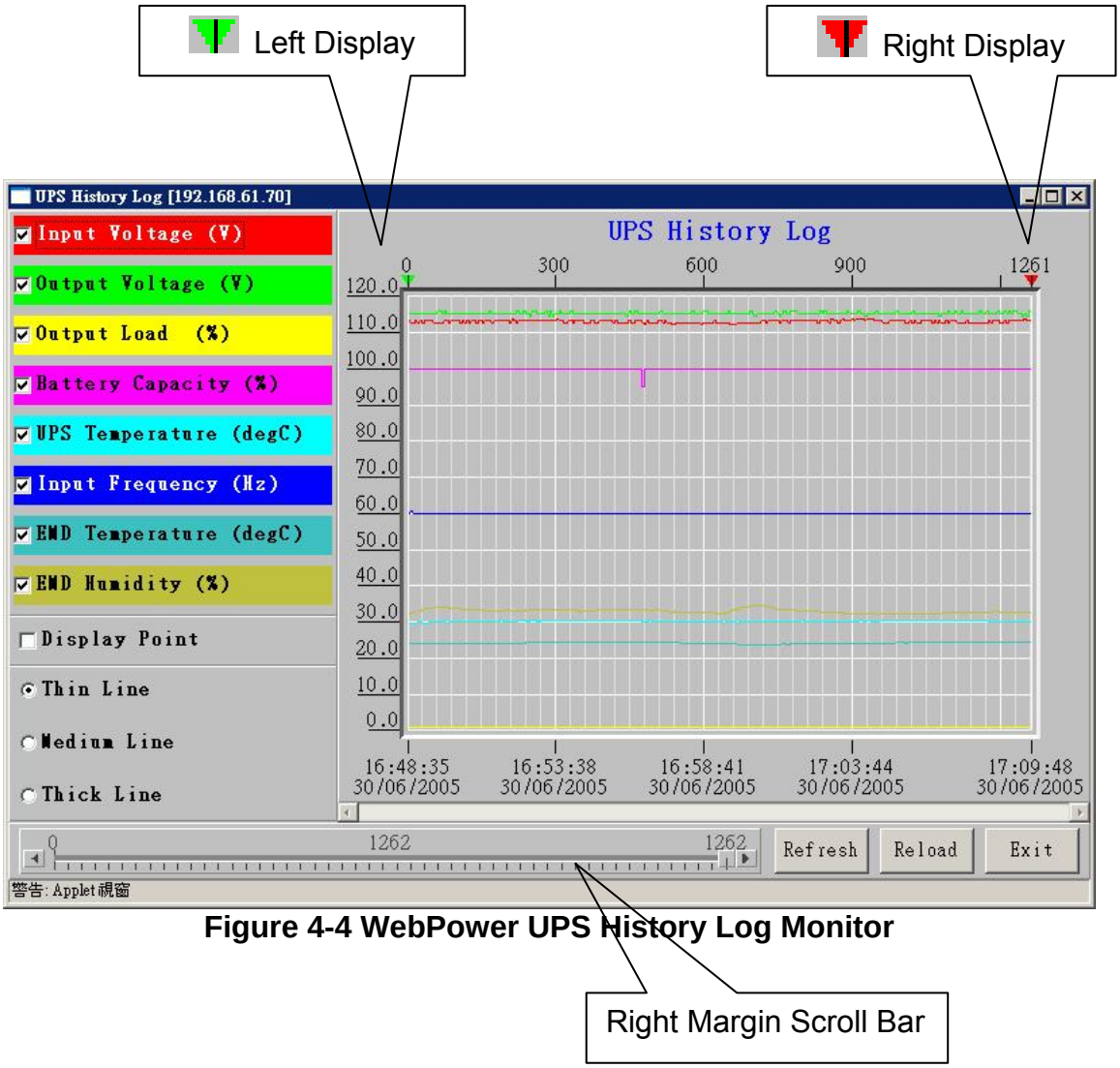


Figure 4-4 WebPower UPS History Log Monitor

Display Point: Display the log interval on the graph
Refresh: Click the *Refresh* button after configures any setting on *UPS History Log Monitor* to take effect
Reload: Update the UPS history log monitor and reset the right display margin
Exit: Close the *UPS History Log Monitor* window

UPS Extended History Log Monitor

By clicking the Java button

at the top right-hand side on the WebPower Home Page, a UPS Extended History Log Monitor will be open in a separate window. This monitor displays the UPS extended history log in line graph. By default, all the UPS parameters will be display on the same graph. You can select any combination of the parameters to be displayed on the graph by checking the check box beside each parameter on the monitor screen and click the *Refresh* button.

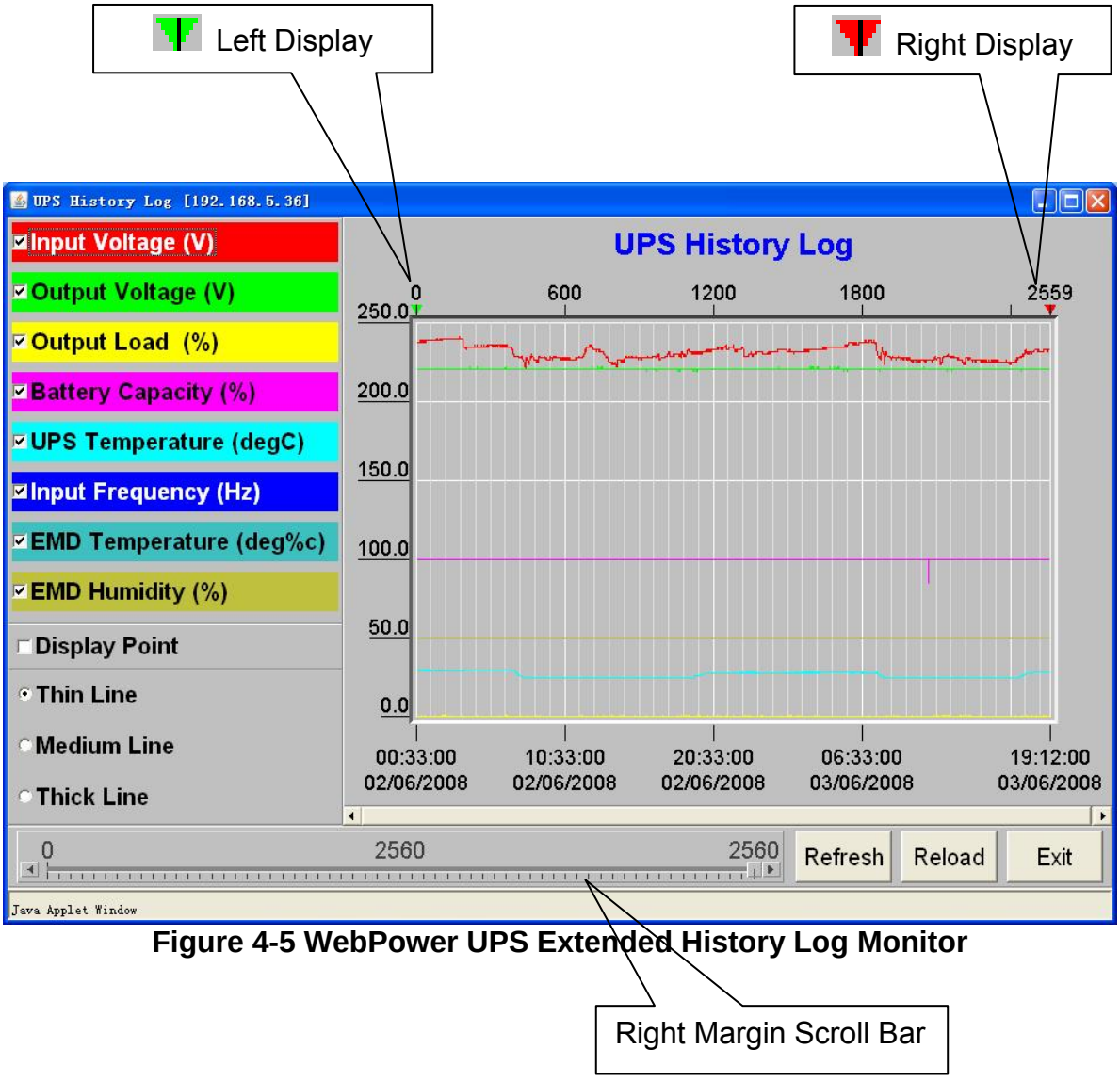


Figure 4-5 WebPower UPS Extended History Log Monitor

Display Point: Display the extended log interval on the graph
Refresh: Click the *Refresh* button after configures any setting on *UPS Extended History Log Monitor* to take effect
Reload: Update the UPS history log monitor and reset the right display margin
Exit: Close the *UPS Extended History Log Monitor* window

Chapter 5 Managing WebPower/UPS via SNMP

Setting SNMP parameters in WebPower

Before using WebPower in SNMP environment, the IP address, gateway must be configured properly. See Chapter 2 for details.

SNMP Access Control Setting

WebPower supports SNMP protocol. You can use SNMP NMS to manage UPS through the network. The IP address of the workstation must be entered in the WebPower write access table to prevent unauthorized users from configuring WebPower via HTTP or SNMP protocols.

> **Note: If you do not enter the IP address of the workstation to the *Access Control Table* (via Serial Port or Telnet) or the *SNMP/HTTP Access Control* (via Web Browser) in WebPower, the SNMP NMS can only view the UPS status; it will not be able to perform any configuration on WebPower/UPS. (See Pg. 19 *Access Control Table Setting* and Pg. 39 *SNMP/HTTP Access Control* for details.)**

SNMP Trap Receivers Setting

See Pg. 40 SNMP Trap Receivers for details.

Set up SNMP Manager Software

1. Add the MIB file of WebPower in the WebPower CD-ROM to the MIB database of the SNMP manager.
2. Search for WebPower in the network
3. To access the WebPower SNMP agent, use ‘public’ for the GET community string and the Read/Write password (default is ***admin***) for the SET community string.

   GET Community string: *public*
   SET Community string: *admin*

For more information, see the MIB file on the WebPower CD-ROM.

Chapter 6 Shutdown Software

Install Shutdown Software in Windows 9x/NT/ 2000/XP/2003

1. Insert the WebPower CD-ROM into the CD-ROM drive.
2. Run the "**SD_WebPower Service_4.20.exe**" program on the CD-ROM.
3. A dialog box will be posted on the screen, type in the IP address of designated WebPower, its client name and shutdown delay time (Figure 6-1). Click the *Def.* Button if you choose the client name as the workstation you are working on.

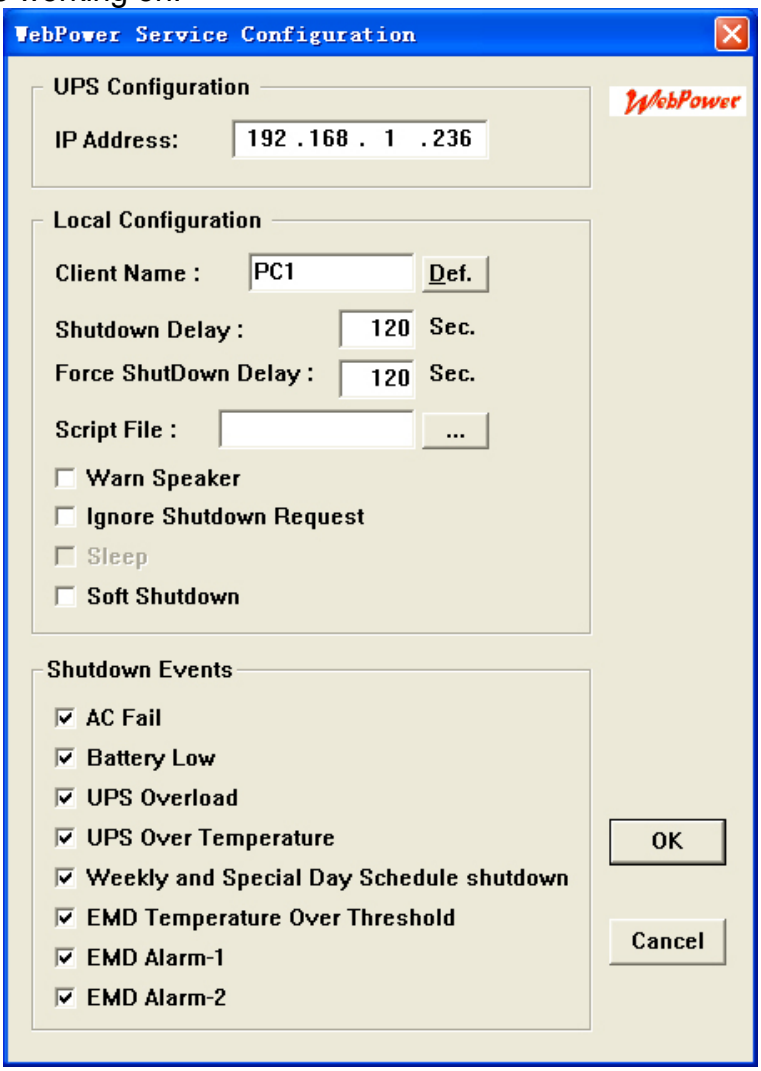


Figure 6-1 Set-up screen

4. Then press the '*OK*' button.
5. After set-up is complete, the shutdown service will connect to the WebPower automatically.

Note: The client local *Shutdown Delay* must not be greater than that of the *UPS Shutdown Delay* configured in WebPower.

View the Connected Client from Web Browser

1. Run the Web Browser on any machine.
2. Browse the WebPower IP address.
   For example, browse http://210.67.192.204
3. Select C*lient Table* from *UPS Monitoring* of the main menu and the list of the connected devices will be shown on the screen (Figure 6-2).

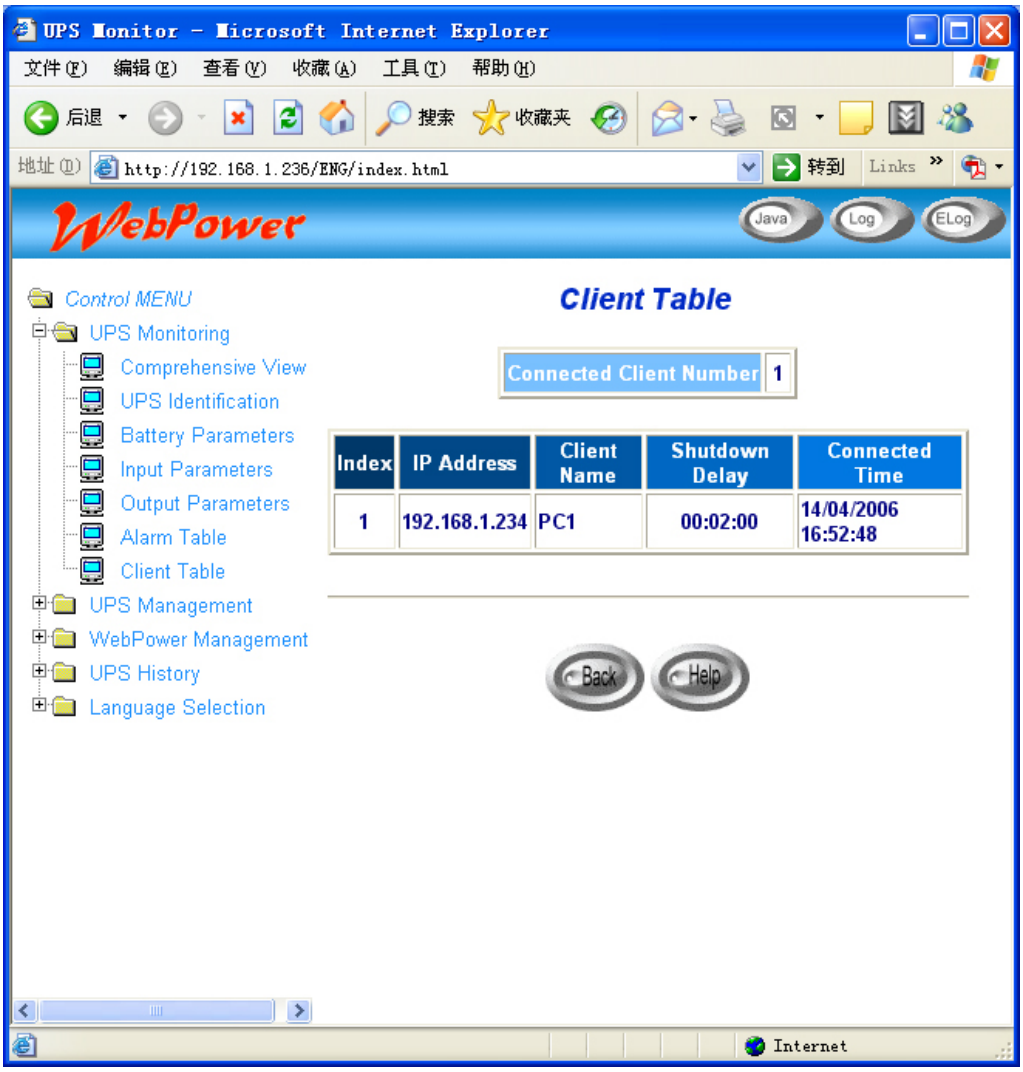


Figure 6-2 WebPower connected (registered) devices list.

Shutdown Process in Windows 9x/ NT / 2000 / XP /2003

When WebPower detects a power event, for example, AC power failure, the WebPower will send the shutdown command to its connected clients. The clients will post a dialog box to notify the user that the system will be shut down (Figure 6-3). The user can select "Shutdown Now" to start the shutdown process or "Cancel" to cancel the shutdown process. The shutdown software will proceed with the shutdown process and the host or server will be shut down automatically if nothing is selected after the counter has counted down to zero.

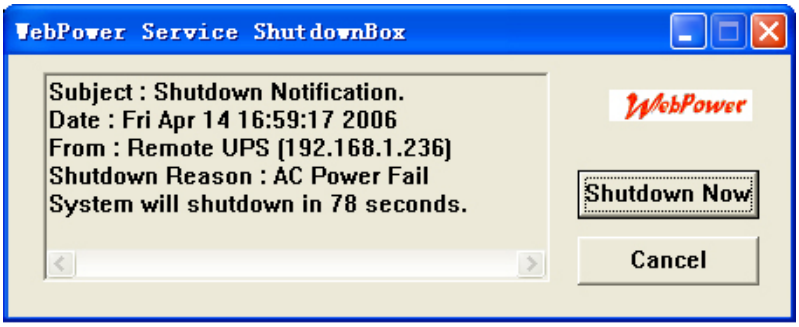


Figure 6-3 Shutdown-warning message.

There are five kinds of state for shutdown software.

1. UPS Connection OK.
2. Trying to locate UPS.
3. Local machine is about to shut down.
4. The service is suspended.
5. Remote UPS is about to shut down or has shut down.

Uninstalling Shutdown Software

To uninstall the shutdown software, the following procedure should be followed.

1. Right mouse click the “battery” icon in the taskbar and select "Exit” to stop the shutdown service.
2. Select the "Add/Remove programs" icon from the Control Panel.
3. Select the "WebPower service", and then click the "Add/ Remove" icon to remove the software.

Install Shutdown Software in SCO OpenServer UNIX

1. From a workstation running SCO OpenServer and login as a supervisor.
2. Insert the WebPower CD-ROM into the CD-ROM drive.
3. If you have already mounted the CD-ROM drive, skip to step 5
4. Type mount /dev/cd0 /mnt
5. Select "Filesystems" -> "Filesystem Manager" -> "Mount" -> "Add Mount Configuration" -> "Local"
6. Select a "Device File" and enter the name of the "Mount Point" (Ex: /mnt). Then select "OK"
7. Copy the shutdown programs into the directory and extract the programs to the directory of ./uGuard

   # ***mkdir uGuard***
   # ***cp /mnt/client/SCO/SD_SCO_4_20_WebPower.tar /uGuard/uGuard.tar***
   # ***cd /uGuard***
   # ***tar xvf uGuard.tar***

8. Type "./install.sh" to proceed with the installation procedure.

   # ***./install.sh***
9. The shell command will invoke the 'vi uGuard.conf', the user must modify the remote host value, host name and local delay (Figure 6-4). After saving the file, the installation is complete.

```
;Sample configuration file of uGuard
;RemoteHostIP: The IP address of remote UPS.
;Set the address to default IP (0.0.0.0) if no WebPower
Service is connected.
RemoteHostIP = 0.0.0.0
;ClientName:The name of the this machine[optional].
;          Free form for this parameter.
;          Maximum 28 bytes long.
ClientName = Mainserver

;WarningBeep status:
WarningBeep = 0
;1 = TRUE; 0 = FALSE(default)

;ShutdownDelay: The local delay time before shutdown.
;           Range from 0 to 65536 seconds.
ShutdownDelay = 120

;Special shutdown script
ShutdownScript = /usr/foo
;ForceShutdownDelay: The delay time for executing
shutdown program
;           Range from 0 to 65536 seconds.
ForceShutdownDelay = 120

;Check AC Fail event
;1 = TRUE; 0 = FALSE(default)
```

```
AcFail = 0

;Check Battery Low event
;1 = TRUE; 0 = FALSE(default)
BatteryLow = 0

;Check UPS Overload event
;1 = TRUE; 0 = FALSE(default)
UPSOverload = 0

;Check UPS Over Temperature event
;1 = TRUE; 0 = FALSE(default)
OverTemp = 0

;Special Weekly and Special Day Schedule shutdown
;1 = TRUE; 0 = FALSE(default)
WeekDaySched = 0
```

Figure 6-4 Modifying the uGuard.conf

*Your server will receive the warning message but won't shutdown If AcFail=0(default value). It will safety shutdown if AcFail=1.

uGuard parameters description

To run or view the uGuard parameters, key in the following command:

 # cd /uGuard
 # uGuard -h

```
uGuard – WebPower Service, Formal Release 4.20
Copyright © 2005 Ingrasys Computer Technology Inc.
All rights reserved

Usage: uGuard [-h][-v][-sS][-uU][-d][-r][-p][-l][-e][-gn]
      -h: This manual page.
      -v: Show revision information
      -s: Start the daemon now
      -S: Start the daemon at next boot up time
      -u: Unload this daemon
      -U: Unload this daemon, don't restart at next boot time
      -d: Suspend program
      -r: Resume this daemon
      -p: Probe the daemon status
      -l: List daemon configuration
      -e: Modify daemon configuration
      -b: Enable Beep.
      -o: Disable Beep, default.
      -i : Ignore shutdown request.
      -t : Enable shutdown request, default.
     -gn: Log level (logfile is /var/adm/uGuard.log)
      n = 0, No log activities
      n = 1, Log start/ stop/ warning activities
```

Figure 6-5 The uGuard -h command.

Deleting uGuard

1. Unload uGuard

   #cd /etc
   #uGuard -U

2. Remove uGuard files

   #cd /etc
   #rm uGuard
   #rm uGuard.conf
   #cd /etc/rc.d/init.d
   #rm ug_usha.sh
   #rm /usr/adm/uGuard.log

Install Shutdown Software in Linux kernel 2.0.x

The shutdown software supplied from the WebPower CD-ROM for the Linux can be install on the Linux operating system with kernel version higher than 2.0.x.

To be able to execute the shutdown program correctly, please check the following procedures:

1. From a workstation running Linux kernel 2.0.x and login as a supervisor.
2. Insert the WebPower CD-ROM into the CD-ROM drive.
3. If you have already mounted the CD-ROM drive, skip to step 7
4. Type ***mount /dev/cdrom***
5. Change the directory to the "Mount Point" (Ex: /mnt/cdrom/CLIENT/Linux).
6. Copy the shutdown programs into the directory and extract the programs to the directory of ./uGuard

   # ***cd /mnt/cdrom/CLIENT/Linux***
   # ***mkdir /uGuard***
   # ***cp ./SD_Linux_4_20_WebPower.tar /uGuard/uGuard.tar***
   # ***cd /uGuard***
   # ***tar xvf uGuard.tar***

7. Type “./install.sh” to proceed with the installation procedure.

   # ***./install.sh***

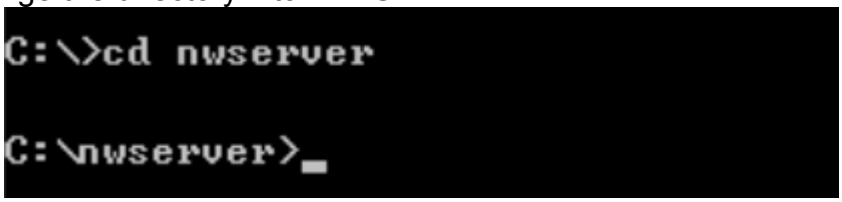
   The shell command will invoke the 'vi uGuard.conf', the user must modify the remote host value, host name and local delay (Figure 6-4). After saving the file, the installation is complete.

Follow the general indications of the chapter **Using Shutdown Software in SCO UNIX.**

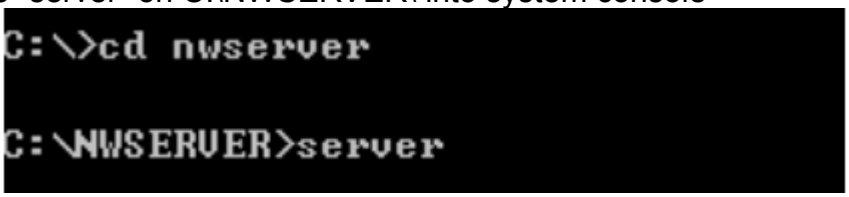
Install Shutdown Client in Novell Netware

1. Insert the WebPower CD-ROM into the CD-ROM drive and copy file to C:\. It has two files (NOVSHUT.NLM and readme.txt) when uncompress zip file. Put novshut.nlm to c:\ after uncompress file over.

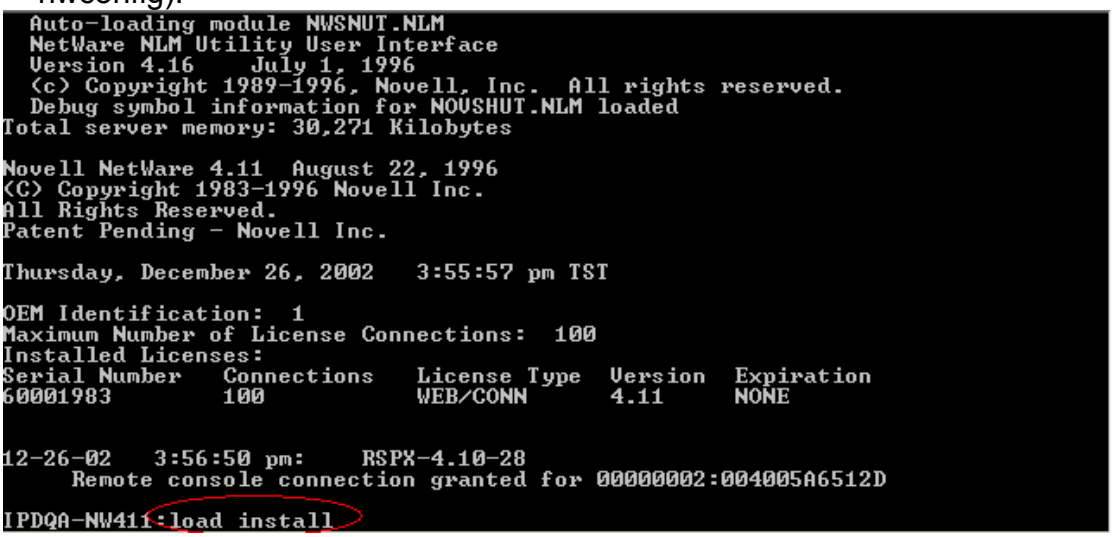
2. Change the directory into “NWSERVER”.



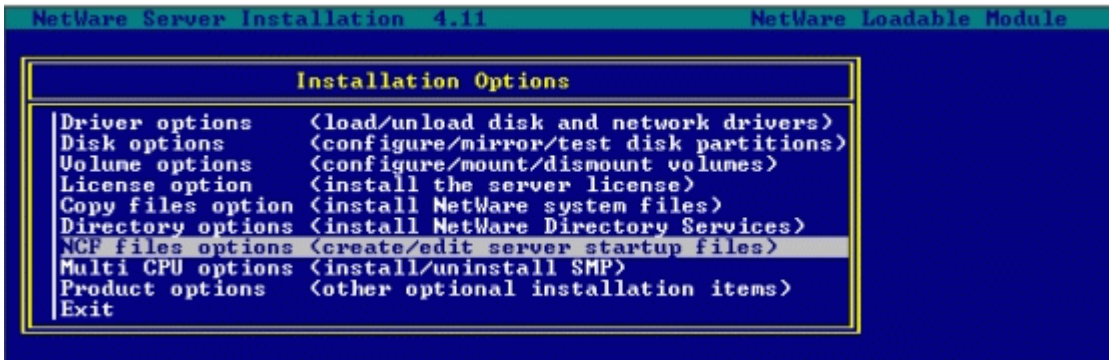
3. Type “server” on C:\NWSERVER\ into system console



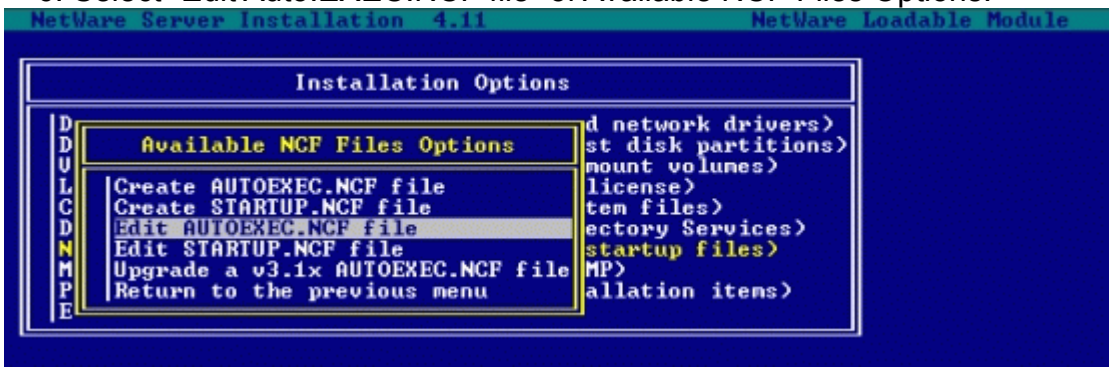
4. Type “load install” on Novell Netware (If you’re Netware6, please enter load nwconfig).


Auto-loading module NWSNUT.NLM
NetWare NLM Utility User Interface
Version 4.16 July 1, 1996
(c) Copyright 1989-1996, Novell, Inc. All rights reserved.
Debug symbol information for NOVSHUT.NLM loaded
Total server memory: 30,271 Kilobytes
Novell NetWare 4.11 August 22, 1996
(C) Copyright 1983-1996 Novell Inc.
All Rights Reserved.
Patent Pending - Novell Inc.
Thursday, December 26, 2002 3:55:57 pm TST
OEM Identification: 1
Maximum Number of License Connections: 100
Installed Licenses:
Serial Number Connections License Type Version Expiration
60001983 100 WEB/CONN 4.11 NONE
12-26-02 3:56:50 pm: RSPX-4.10-28
Remote console connection granted for 00000002:004005A6512D
IPDQA-NW411:load install

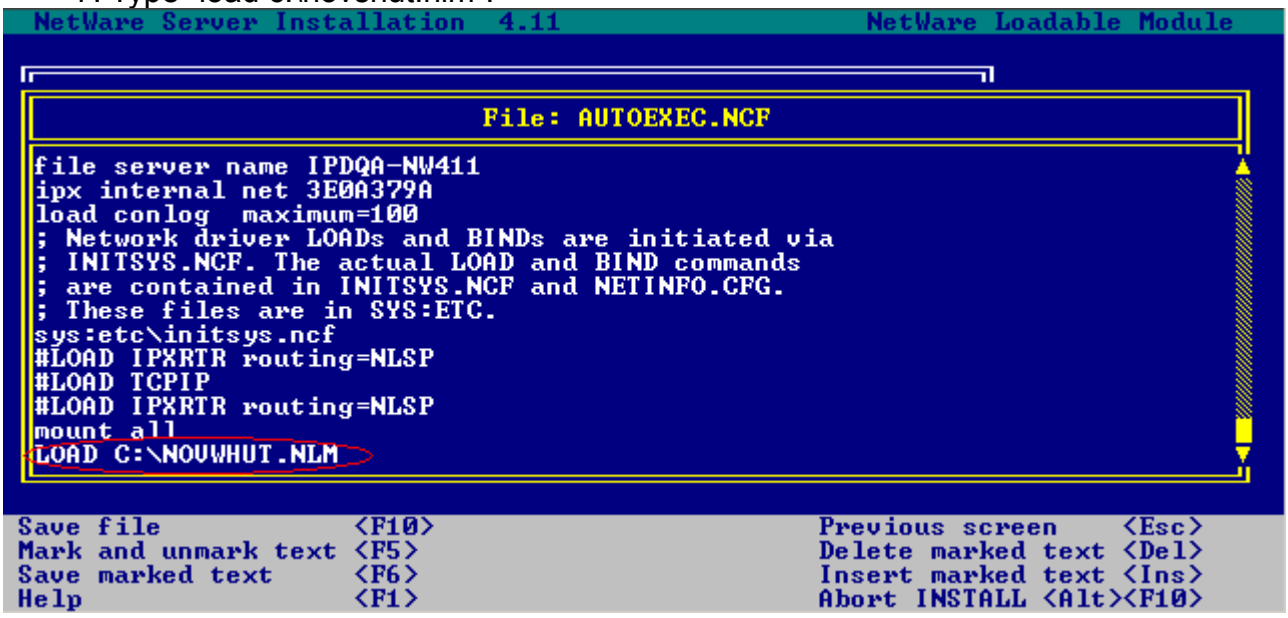
5. Select “NCF files options (create server startup files)” of Installation Options table.


NetWare Server Installation 4.11
NetWare Loadable Module
Installation Options
Driver options (load/unload disk and network drivers)
Disk options (configure/mirror/test disk partitions)
Volume options (configure/mount/dismount volumes)
License option (install the server license)
Copy files option (install NetWare system files)
Directory options (install NetWare Directory Services)
NCF files options (create/edit server startup files)
Multi CPU options (install/uninstall SMP)
Product options (other optional installation items)
Exit

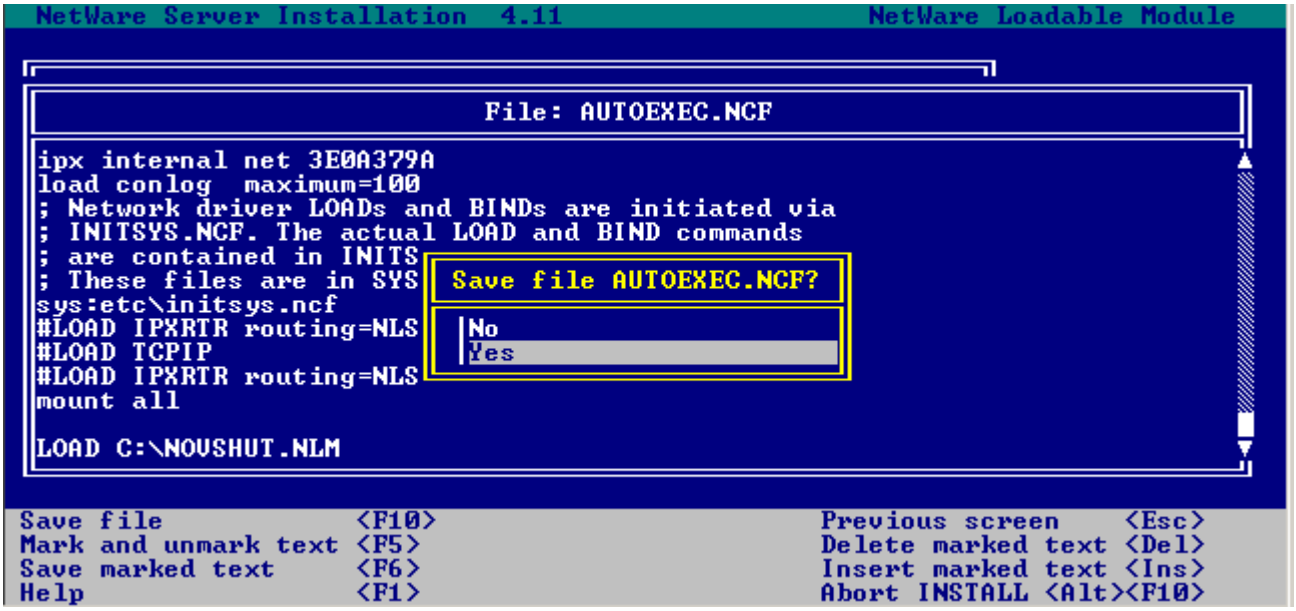
6. Select “Edit Auto.EXEC.NCF file” of Available NCF Files Options.



7. Type “load c:\novshut.nlm”.

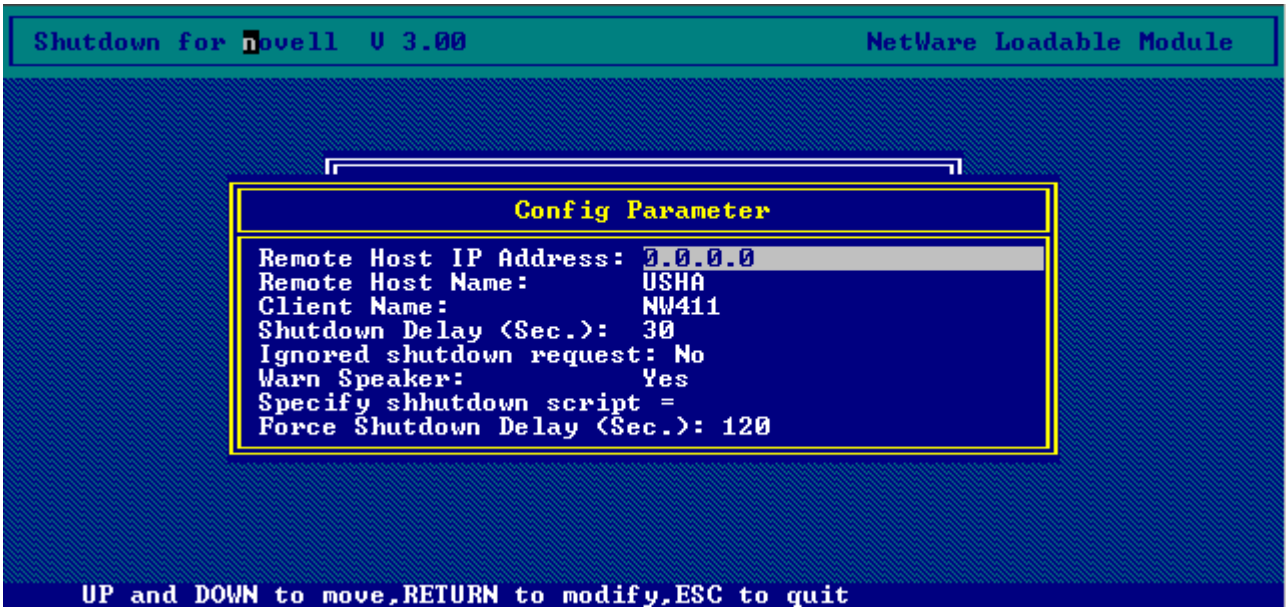


8. Click F10 to save file Auto.EXE.NCF.

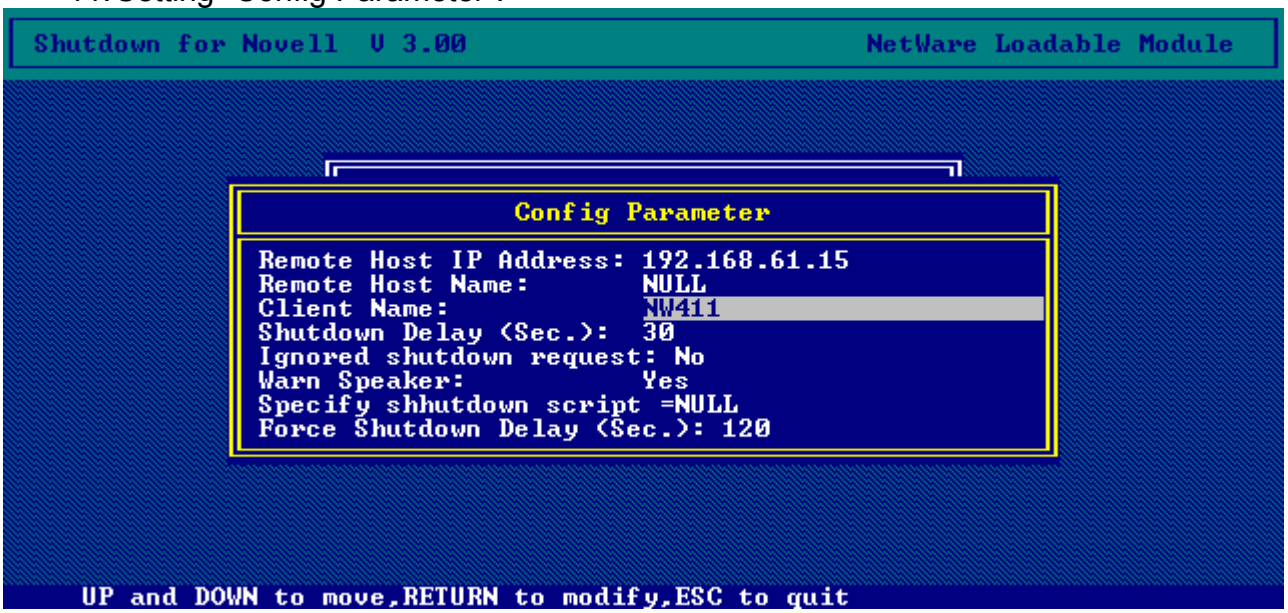


9. Get server down and exit.
>Type “down” then type “exit” command

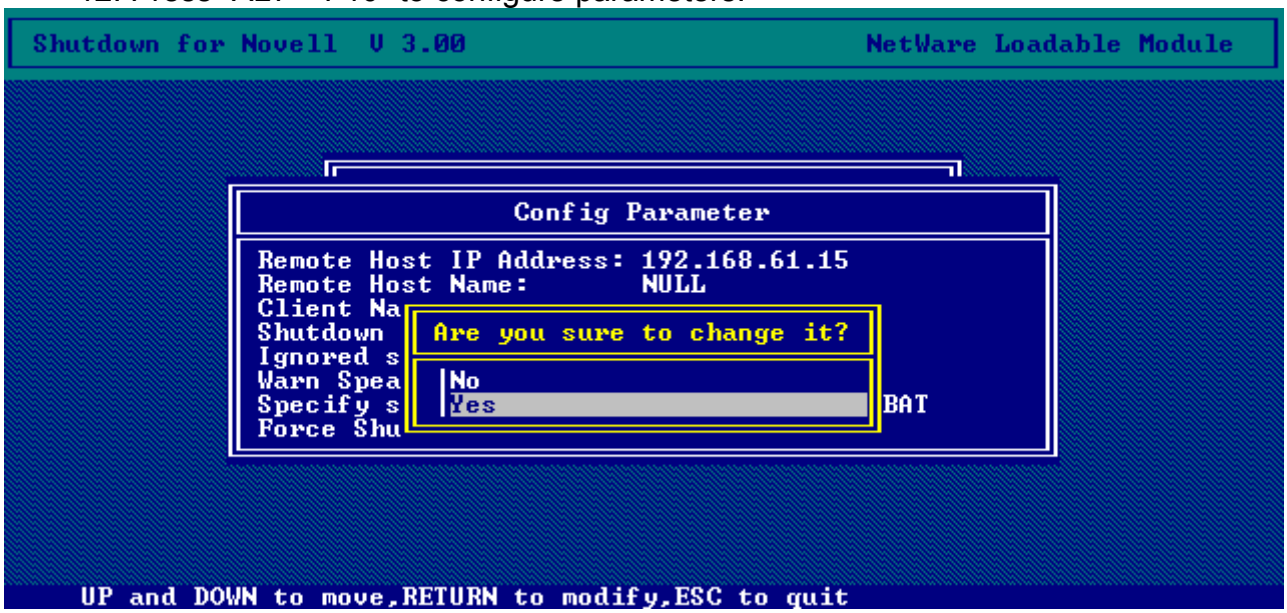
10. The Shutdown daemon will execute when restart server.


Shutdown for Novell V 3.00
NetWare Loadable Module
Config Parameter
Remote Host IP Address: 0.0.0.0
Remote Host Name: USHA
Client Name: NW411
Shutdown Delay (Sec.): 30
Ignored shutdown request: No
Warn Speaker: Yes
Specify shhutdown script =
Force Shutdown Delay (Sec.): 120
UP and DOWN to move,RETURN to modify,ESC to quit

11. Setting “Config Parameter”.


Shutdown for Novell V 3.00
NetWare Loadable Module
Config Parameter
Remote Host IP Address: 192.168.61.15
Remote Host Name: NULL
Client Name: NW411
Shutdown Delay (Sec.): 30
Ignored shutdown request: No
Warn Speaker: Yes
Specify shhutdown script =NULL
Force Shutdown Delay (Sec.): 120
UP and DOWN to move,RETURN to modify,ESC to quit

12. Press “ALT + F10” to configure parameters.



Note: This version only support Class C IP Address.

Install Shutdown Software in Solaris

1. From a workstation running Solaris and login as a administrator.
2. Insert the WebPower CD-ROM into the CD-ROM drive.
3. Mount CD-ROM
4. Create new directory. (mkdir uGuard)
5. Copy the shutdown programs into the directory and extract the programs to the directory of ./uGuard, then uncompress it.

```
bash-2.05a# tar xvf SD_HP-UX_4_20_USHA.tar
x install.sh, 436 bytes, 1 media blocks.
x installtime, 53150 bytes, 104 media blocks.
x uGuard, 128552 bytes, 252 media blocks.
x unins.sh, 478 bytes, 1 media blocks.
```

6. Type “./install.sh” to proceed with the installation procedure.

```
bash-2.05# ./install.sh
```

7. The shell command will invoke the 'vi uGuard.conf', the user must modify the remote host value, host name and local delay. After saving the file, the installation is complete.

```
;Sample configuration file of uGuard
;RemoteHostIP: The IP address of remote UPS.
;Set the address to default IP (0.0.0.0) if no USHA Service is connected.
RemoteHostIP = 0.0.0.0

;ClientName:The name of the this machine[optional].
;       Free form for this parameter.
;       Maximum 28 bytes long.
ClientName = Mainserver

;WarningBeep status:
WarningBeep = 0
;1 = TRUE; 0 = FALSE(default)

;ShutdownDelay: The local delay time before shutdown.
;        Range from 0 to 65536 seconds.
ShutdownDelay = 120

;Special shutdown script
ShutdownScript = /usr/foo
;ForceShutdownDelay: The delay time for executing shutdown program
;        Range from 0 to 65536 seconds.
ForceShutdownDelay = 120

;Check AC Fail event
;1 = TRUE; 0 = FALSE(default)
AcFail = 0

;Check Battery Low event
;1 = TRUE; 0 = FALSE(default)
BatteryLow = 0

;Check UPS Overload event
;1 = TRUE; 0 = FALSE(default)
UPSOverload = 0

;Check UPS Over Temperature event
;1 = TRUE; 0 = FALSE(default)
OverTemp = 0

;Special Weekly and Special Day Schedule shutdown
;1 = TRUE; 0 = FALSE(default)
WeekDaySched = 0
"/etc/uGuard.conf" [Last line is not complete] 55 lines, 1307 characters
```

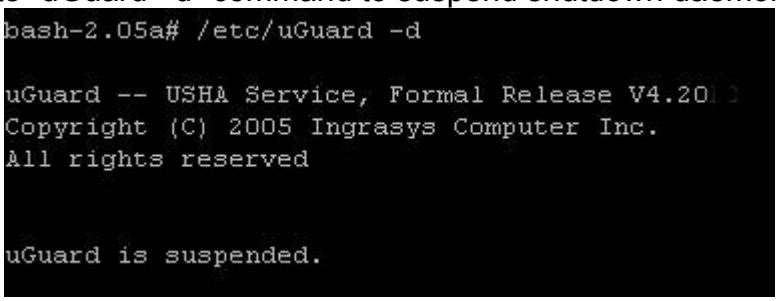
8. Type “y” command to start shutdown daemon when setting over.

```
Do you want to start the daemon now ?[y]
y

uGuard -- USHA Service, Formal Release V4.20
Copyright (C) 2005 Ingrasys Computer Inc.
All rights reserved


uGuard is started.


uGuard -- USHA Service, Formal Release V4.20
Copyright (C) 2005 Ingrasys Computer Inc.
All rights reserved

uGuard will start at next boot up time.
```

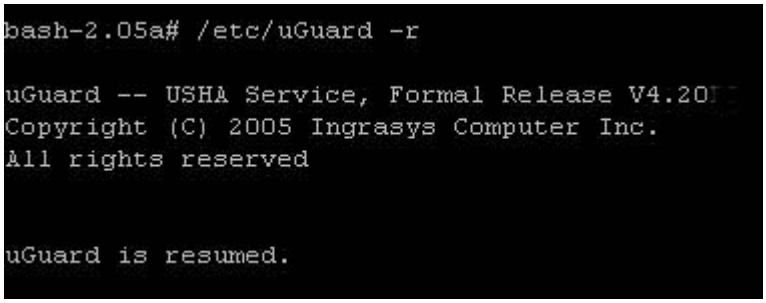
uGuard parameters description

```
Copyright (C) 2005 Ingrasys Computer Inc.
All rights reserved

Usage : uGuard [-h][-v][-sS][-uU][-d][-r][-p][-l][-e][-bo][-it][-gn]
  -h : This manual page .
  -v : Show revision information.
  -s : Start the program now.
  -S : Start the program at next boot up time, but not start immediately.
  -u : Unload the program now.
  -U : Unload the program and don*t start at next boot up time,
       but not unload immediately.
  -d : Suspend program.
  -r : Resume program.
  -p : Probe the status.
  -l : List configurations.
  -e : Modify configurations.
  -b : Enable Beep.
  -o : Disable Beep, default.
  -i : Ignore shutdown request.
  -t : Enable shutdown request,default.
  -gn : Log level(Default = 1;log file is /var/uGuard.log).
        n = 0, No log activities .
        n = 1, Log start/stop/warning activities.
```

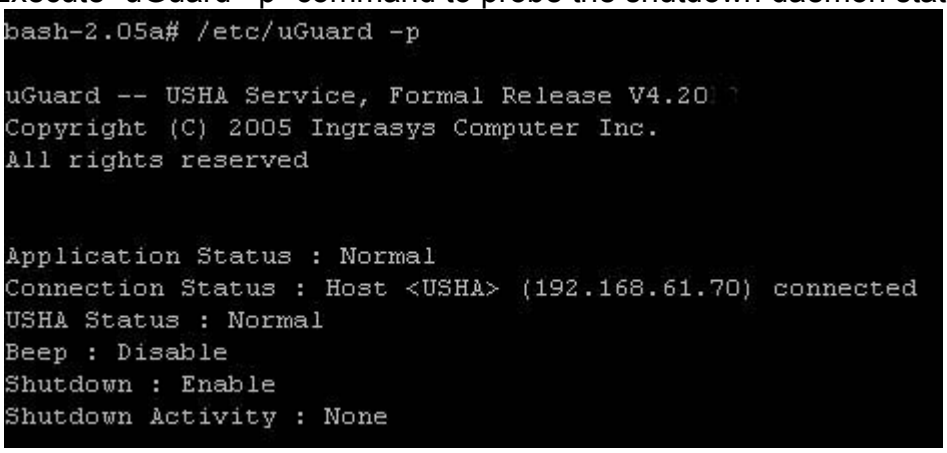
1. Execute “uGuard –d” command to suspend shutdown daemon.


bash-2.05a# /etc/uGuard -d
uGuard -- USHA Service, Formal Release V4.20
Copyright (C) 2005 Ingrasys Computer Inc.
All rights reserved
uGuard is suspended.

2. Execute “uGuard –r” command to resume shutdown daemon.


bash-2.05a# /etc/uGuard -r
uGuard -- USHA Service, Formal Release V4.20
Copyright (C) 2005 Ingrasys Computer Inc.
All rights reserved
uGuard is resumed.

3. Execute “uGuard –p” command to probe the shutdown daemon status.


bash-2.05a# /etc/uGuard -p
uGuard -- USHA Service, Formal Release V4.20
Copyright (C) 2005 Ingrasys Computer Inc.
All rights reserved
Application Status : Normal
Connection Status : Host <USHA> (192.168.61.70) connected
USHA Status : Normal
Beep : Disable
Shutdown : Enable
Shutdown Activity : None

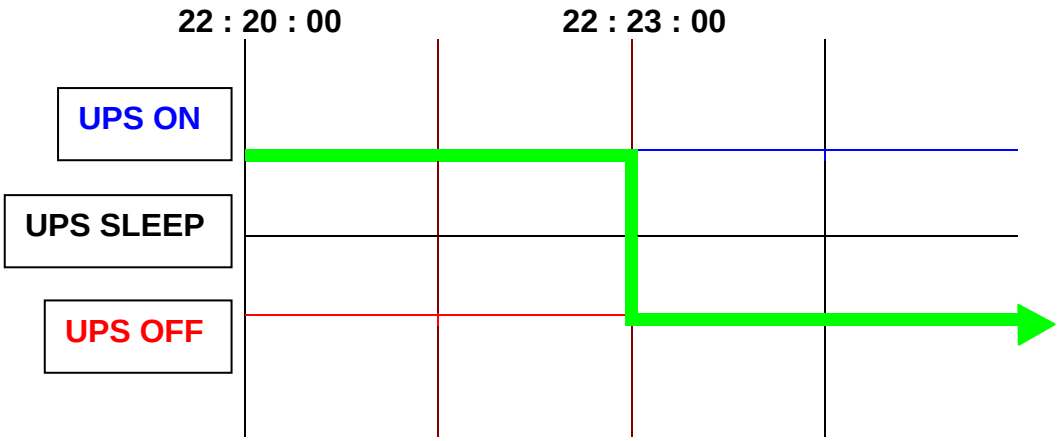
Chapter 7 UPS Power Management

One of the most significant feature of the WebPower is that it can deal with almost all the power crisis confront to a UPS and protect your valuable information reside in your server from being damage due to the abrupt shutdown of the server. In addition, WebPower can help corporate to cut the expensive energy bill by shutdown all the computer workstations in the office automatically during holiday or after office-hour using the *Weekly Shutdown* schedule or *Special Day* schedule. These schedules can also assist MIS staff to prevent unauthorised access to the server during the after office-hour time.

Turn off UPS Manually

When there is a need to turn off the UPS manually, go to the *UPS Control* in the *UPS Management* menu. Login as an Administrator. Select the radial button beside *Turn Off UPS* and click the *Send* button.

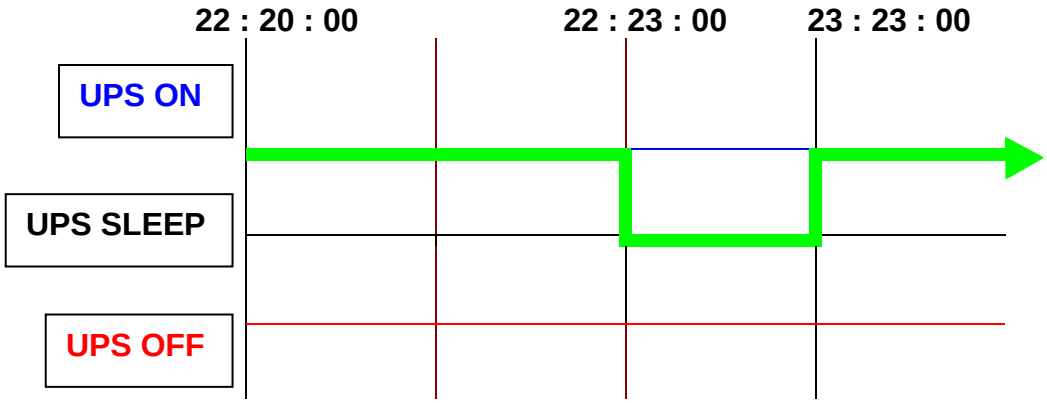
UPS Shutdown Delay (Sec): 180 (default value)
Turn off the UPS manually at 22:20:00



Set UPS To Sleep Mode Manually

When there is a need to set he UPS to sleep mode manually, go to the *UPS Control* in the *UPS Management* menu. Login as an Administrator. Select the radial button beside *UPS Sleep* and click the *Send* button.

UPS Shutdown Delay (Sec):	180	(default value)
UPS Sleep Time (Min):	60	(default value)
Set UPS to sleep manually at	22:20:00	

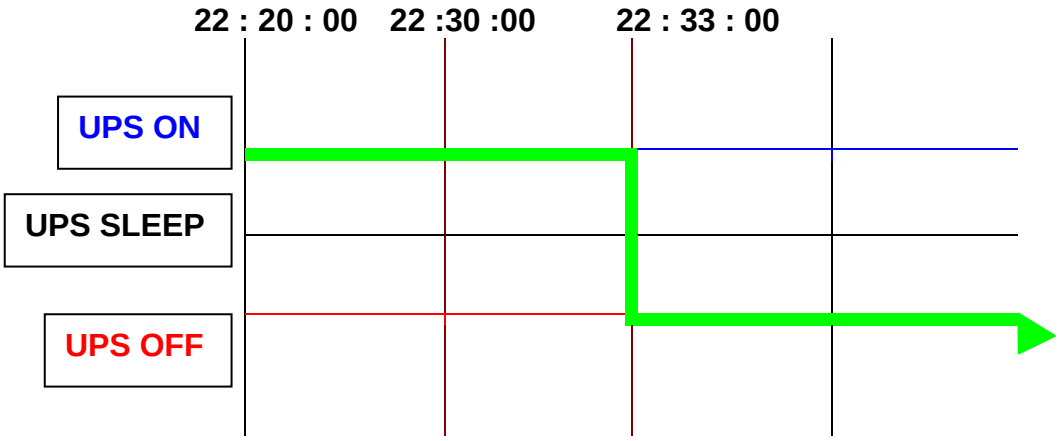


UPS Shutdown during Power Crisis

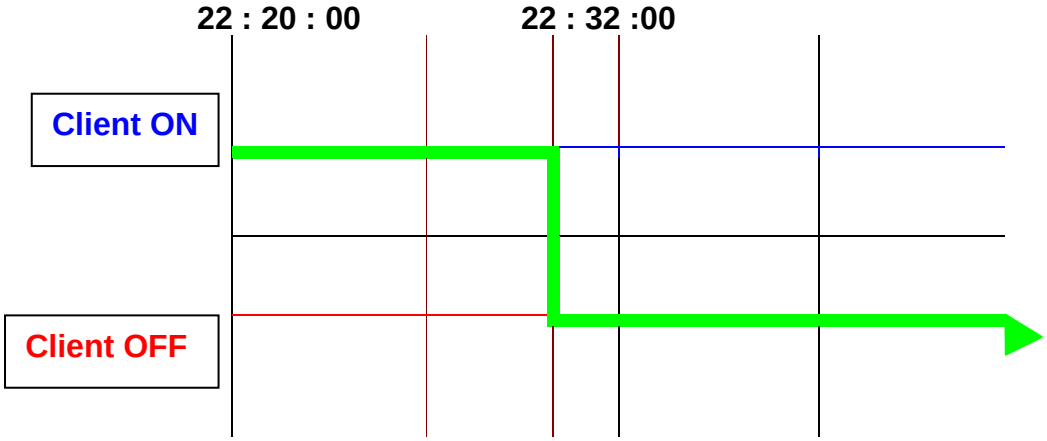
WebPower responds to seven different kinds of UPS shutdown events and it will take appropriate action to protect your information in your server. Go to the *UPS Shutdown* in the *UPS Management* menu. Logging in as an Administrator. Configure the UPS Shutdown table to meet your need. Click the *Set Value* button when finish. (See Pg. 35UPS Shutdown for details)

Status:	UPS Turn Off	(default value)
Delay (Min):	10	(default value)
1st Warning (Sec)	30	(default value)
Warning Interval (sec)	30	(default value)

UPS Shutdown Delay (Sec): 180 (default value)
AC failed at 22:20:00



Client's local shutdown delay (Sec):120 (default value)



Managing the UPS Shutdown Schedule

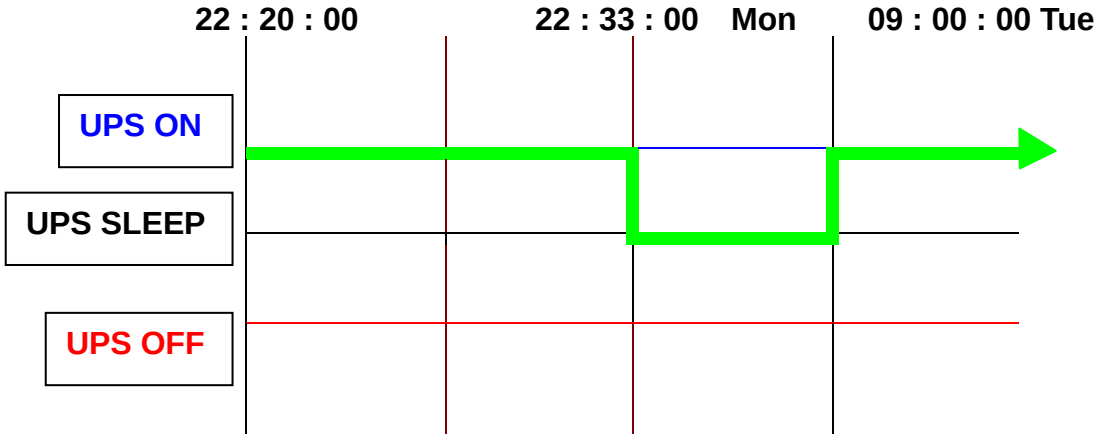
WebPower supports two kinds of shutdown schedule – (1) **Weekly Schedule**; (2) **Special Day Schedule**.

Note: Before managing the UPS Shutdown Schedule, please make sure that the Date and Time configured in WebPower is correct.

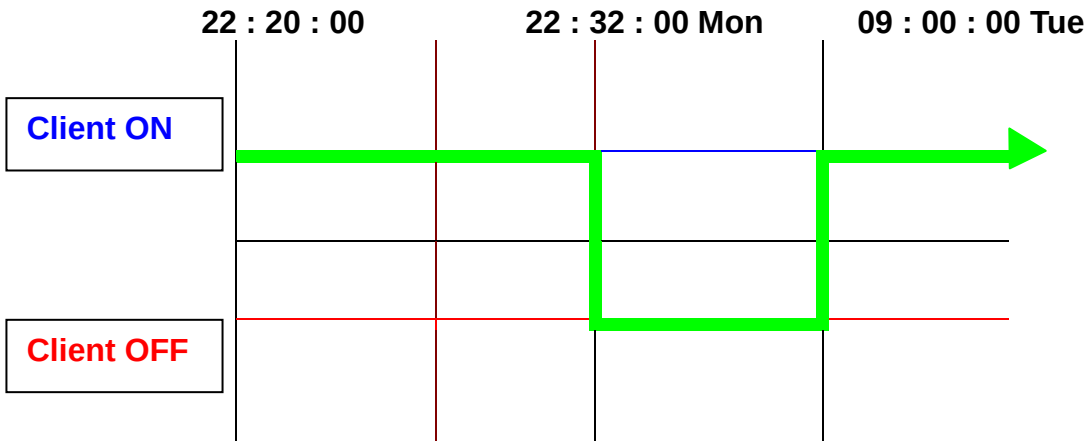
Scenario

Status:	UPS Turn Off	(default value)
Delay (Min):	10	(default value)
1st Warning (Sec):	0	(default value)
Warning Interval (sec):	60	(default value)

UPS Shutdown Delay (Sec): 180 (default value)
Shutdown day & time: Monday 22:20:00
Restart day & time: Tuesday 09:00:00



Client's local shutdown delay (Sec): 120 (default value)



Appendix A **Technical Information**

Technical Information about WebPower

Features

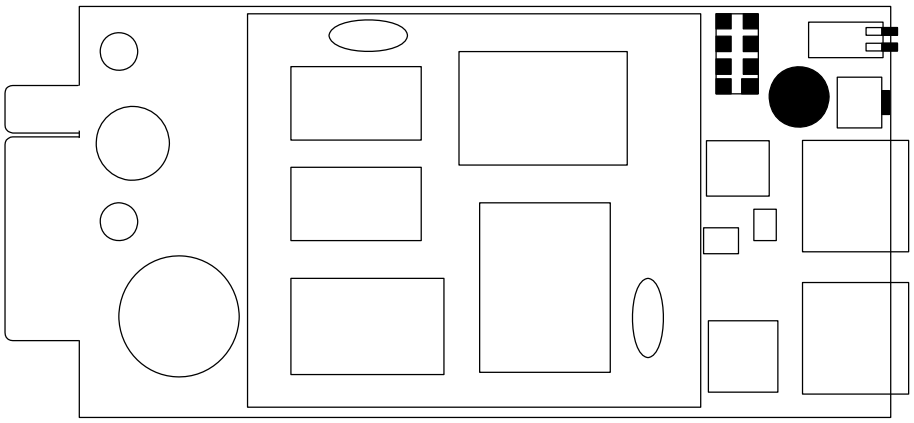
- Configuration from HTTP Web Browser, Telnet and serial port console.
- Management through SNMP manager and HTTP Web Browser.
- Support UPS MIB (RFC1628) and WebPower MIB
- Provide shutdown programs for multiple Operating System
- Upgrade from TFTP server and serial port.
- UPS control through scheduling.
- History, Event and Statistic log file.
- SNMP alarms detection.
- Report UPS Input, Output, Temperature, Load and Capacity through Java Monitor
- UPS shutdown warning broadcast through shutdown programs
- Support internal Real Time Clock (RTC).

Technical Specification

CPU	16 bits CPU - 50MHz
Memory	512K x 16 Static RAM 512K x 16 Flash ROM
Serial Communication	Two asynchronous serial ports
LAN Controller	10/100 Mbits Ethernet controller
Network Connection	10/100 TX RJ-45 jack connector
RTC	Battery backup RTC
UPS Protocol	Phoenixtec UPS communication protocol v3.3 Santak UPS communication protocol SEC UPS communication protocol V2.6 Delta UPS communication protocol V1.43
Network Protocol	SNMP over UDP/IP HTTP over TCP/IP ARP, TFTP, SSH, SSL and ICMP
Supported MIB	UPS MIB (RFC1628) WebPower MIB
Operating Temperature	0 ~ 40° C
Operating Humidity	10 ~ 80 %
Power Input	8-15V DC
Power Consumption	3.0 Watts Maximum
Size	130mm x 60mm x 18.2mm (L x W x H)
Weight	90gm
Regulatory compliance	FCC class B CE class B

Board Layout and Pin Assignment

Board layout

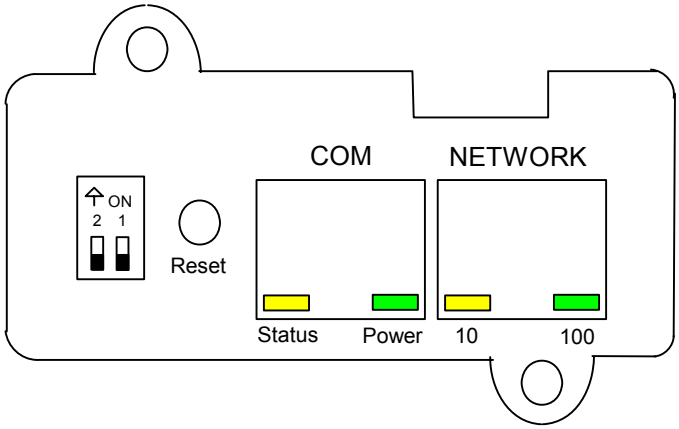


Pin assignment

Bottom Side		Component Side	
Pin 1	GND	Pin 2	DC (8-15V)
Pin 3	Txd→UPS	Pin 4	Rxd←UPS
Pin 5	NC	Pin 6	NC
Pin 7	NC	Pin 8	Short to pin 10
Pin 9	GND	Pin 10	Short to pin 8
Pin 11~25	NC	Pin 12~26	NC

Switch Description

Component layout of the panel



DIP-switch definition

No.	SW1	SW2	Function Mode
1	ON	ON	Manufacture Diagnostic Mode
2	ON	OFF	Serial upgrade mode
3	OFF	ON	Reserved
4	OFF	OFF	Operating Mode

LED Indicator

LED definition

No.	Port	Green LED	Amber LED	Function
1	**Network**	Flashing(1sec)	OFF	Ethernet 100 Traffic
2		OFF	Flashing(1sec)	Ethernet 10 Traffic
3		OFF	OFF	Ethernet disconnect
4	**COM**	ON	Flashing(1~3sec)	RS-232 Port Active
5		OFF	Flashing(1sec)	Serial Upgrade Mode
6		Two LED cross Flashing	Two LED cross Flashing	Auto Diagnostic Mode
7		ON	ON	Hardware Error

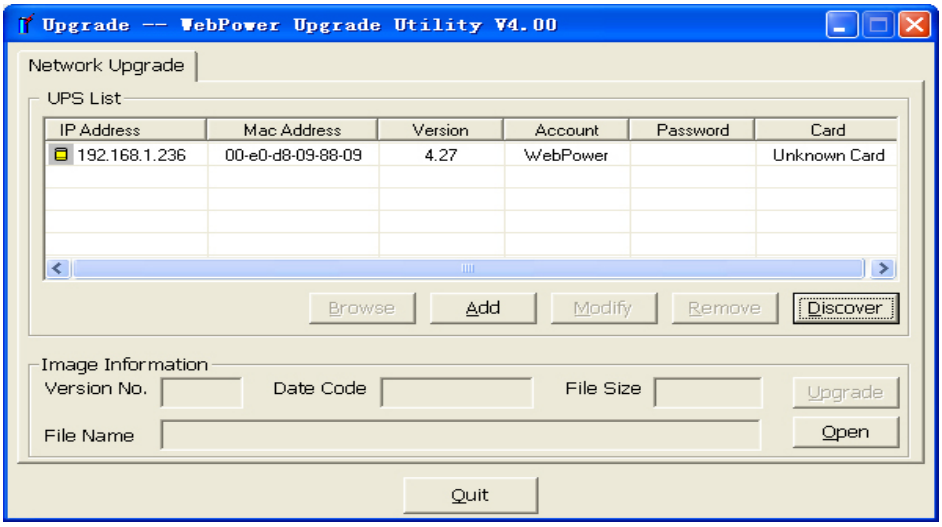
Appendix B **Firmware Upgrades**

General information

To be able to perform firmware upgrading, WebPower must be connected to the same network as the workstation from which the file is to be sent.
In the WebPower Control menu, check that the *Network Upgrade* is enabled and that you have the login string information and the Community Read/Write Password.

Updating WebPower Firmware from Windows 9x/Me/NT 4.0/2000/XP/2003

To perform firmware upgrade, use the **upgradeV4.04.exe** program on the WebPower CD-ROM. This program is compatible with Windows95/98/Me, Windows NT 3.51/4.0/2000/XP and higher.



1. **UPS List:** Displays the addresses of the WebPower present in the local network.
2. **Discover:** Search for the WebPower on the local network.
3. **Remove:** Removes the selected WebPower from the UPS List.
4. **Modify:** Lets you modify the parameters of the WebPower selected in the UPS List.
5. **Add:** Lets you add the IP address of a WebPower to the UPS List manually.
6. **Browse:** Open WebPower Webpage of the WebPower selected in the UPS List.
7. **Set IP**: Re-set WebPower IP Address; Subnet Mask and Gateway Address of the WebPower selected in the UPS List.
8. **Upgrade:** Sends the program loaded with the Open button to the selected WebPower of the UPS List.
9. **Open:** Open and load the new image file for upgrade.
10. **Quit:** Exit the program.

Note: You can simultaneously upgrade up to 4 WebPowers on the network using the upgradeV4.04.exe program

Updating WebPower Firmware from UNIX

To be able to upgrade the firmware using a UNIX operating system, you must have the command **tftp** installed in your system.
For uploading of the new firmware to WebPower, execute the following command line:

```
        # tftp
tftp> binary
tftp> connect <host>
tftp> put <filename> upgrade@<password>@<username>
```

where:

binary	: Binary data download mode
<*host*>	: WebPower IP address. Example **172.168.1.18**
put	: PUT command
<*filename*>	: Name of the file containing the firmware image. Example: **/mnt/floppy/WebPower426.bin**
upgrade	: Upgrade key word
@	: Separator characters
<*password*>, <*username*>	: User Name and Password for read/write access

Appendix C **HTTP Security Control**